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Mr. John Grantham
State of Washington
Department of Ecology
Nuclear & Mixed Waste Program
P. O. Box 47600
Olympia, WA 98504-7600

FLUOR DANIEL, INC.

Date: April 15, 1993

Reference: Hanford Waste Vitrification Plant
DOE Contract DE-AC06-86RL10838
Fluor Contract 8457

Transmittal No.: WDOE-395

Dear Mr. Grantham:

TRANSMITTAL

We enclose **2 FULLSIZE BLUELINES (ROLLED), 1 REDUCED & 2 SPECIFICATIONS

Response due to Fluor: N/A
Responds to: PACKAGE P06B

| NUMBER | REV | DATE | TITLE |
|----------------------------|-------|-------|---|
| SEE TRANSMITTAL ATTACHMENT | ----- | ----- | P06B PACKAGE MELTER POUR AND DRAIN TURNTABLE |

Distribution:

Reference: FRP-881, FUP-432
R. L. Long: DOE-RL w/0
TWP/AME Corresp Cntrl Cntr, MSIN A5-10
(P06B PACKAGE), w/0
P. Felise, WHC-RL (MSIN G6-16), w/1F, SPEC
~~Environmental Data Management Center~~
(MSIN H6-08), w/1F, 1 SPEC
D. Duncan, US EPA, Region X w/0

Very truly yours,

Rossie Cadenas for
R. S. Poulter
Project Director

RSP:JL:lh



PAGE 1
DATE 04/07/93
CONTRACT 80845734

Time: 10:13 AM

HANFORD WASTE VITRIFICATION PLANT
COORDS LISTING OF SPECIFICATION FOR PKG P068

| DISC | PACKAGE | SPEC NUMBER | PKG REV | SPECIFICATION TITLE | SEC REV | SECTION | SECTION TITLE | REMARKS |
|------|---------|----------------|------------|---------------------------------|------------|---------|--|---------|
| | P068 | B-595-P-P068 | 0 | MELTER POUR AND DRAIN TURNTABLE | | | | |
| | | | | | 0 | 01730 | OPERATION AND MAINTENANCE DATA | |
| | | | | | 0 | 05060 | WELDING STRUCTURAL | |
| | | | | | 0 | 13252 | PRECAUTIONS FOR FABRICATION, HANDLING AND STORAGE OF STAINLESS STEEL AND NICKEL ALLOYS | |
| | | | | | 0 | 14601 | POUR TURNTABLE | |
| | | | | | 0 | 14602 | DRAIN TURNTABLE | |
| | | | | | 0 | 14603 | CABLE REEL ASSEMBLY | |
| | | | | | 0 | 14604 | TRACK AND CATCH PAN ASSEMBLY | |
| | | | | | 0 | 15196 | IDENTIFICATION AND TAGGING METHODS FOR MECHANICAL EQUIPMENT | |
| | | | | | 0 | 16120 | SOLDERING - ELECTRICAL | |
| | | | | | 0 | 16151 | MOTORS-INDUCTION FOR RADIOACTIVE SERVICE | |
| | | | | | 0 | 16610 | ELECTRICAL REQUIREMENTS FOR PACKAGED EQUIPMENT | |
| | | | | | 0 | 17857 | LOCAL CONTROL PANELS FOR POUR AND DRAIN TURNTABLES | |
| | | | | | 0 | 17886 | INSTR FURNISHED W/MECH EQPT LOAD CELL SIGNAL CONDITIONER POUR & DRAIN TURNTABLES | |

00/PIPING & INSTRUMENT DIAGRAMS, 05/CIVIL, 10/MVAC, 20/STRUCTURAL, 30/ARCHITECTURAL, 40/MECHANICAL, 50/PIPING, 51/FIRE PROTECTION,
60/ELECTRICAL, 70/CONTROL SYSTEMS, 90/MISCELLANEOUS

PAGE 2
DATE 04/07/93
CONTRACT 80845734

Time: 10:13 AM

HANFORD WASTE VITRIFICATION PLANT
COORDS LISTING OF SPECIFICATION FOR PKG P06B

| DISC | PACKAGE | SPEC NUMBER | PKG REV | SPECIFICATION TITLE | SEC REV | SECTION | SECTION TITLE | REMARKS |
|------|---------|----------------|------------|---------------------|------------|---------|---------------|---------|
|------|---------|----------------|------------|---------------------|------------|---------|---------------|---------|

| | | | | | | | | |
|--|------|--------------|---|---------------------------------|--|--|--|--|
| | P06B | B-595-P-P06B | 0 | MELTER POUR AND DRAIN TURNTABLE | | | | |
|--|------|--------------|---|---------------------------------|--|--|--|--|

| | | | | | | | | |
|----|--|--|--|--|---|-------|--|--|
| 70 | | | | | 0 | 17908 | INSTRUMENTS FURNISHED WITH MECHANICAL EQUIPMENT POUR AND DRAIN TURNTABLES | |
|----|--|--|--|--|---|-------|--|--|

TOTAL: 14

Records printed: 14

00/PIPING & INSTRUMENT DIAGRAMS, 05/CIVIL, 10/HVAC, 20/STRUCTURAL, 30/ARCHITECTURAL, 40/MECHANICAL, 50/PIPING, 51/FIRE PROTECTION,
60/ELECTRICAL, 70/CONTROL SYSTEMS, 90/MISCELLANEOUS

PAGE 1
DATE 04/07/93
CONTRACT 80845734

Time: 11:17 AM

HANFORD WASTE VITRIFICATION PLANT
COORDS LISTING OF DRAWINGS FOR PKG P068

| DISC | PACKAGE | DRAWING NUMBER | SHT NO. | REV | SIGNATURE DATE | DRAWING TITLE | REMARKS |
|------|---------|-------------------|------------|-----|-------------------|--|---------|
| 30 | P068 | H-2-116013 | 1 | 0 | 04/06/93 | MELTER POUR & DRAIN TURNTABLE TITLE SHEET | |
| 30 | P068 | H-2-116014 | 1 | 0 | 04/06/93 | MELTER POUR & DRAIN TURNTABLE DRAWING INDEX | |
| 30 | P068 | H-2-116014 | 2 | 0 | 04/06/93 | MELTER POUR & DRAIN TURNTABLE DRAWING INDEX | |
| 40 | P068 | H-2-120302 | 1 | 0 | 04/06/93 | TU-130-001 POUR TURNTABLE PARTS LIST & NOTES | |
| 40 | P068 | H-2-120302 | 2 | 0 | 04/06/93 | TU-130-001 POUR TURNTABLE ASSEMBLY | |
| 40 | P068 | H-2-120302 | 3 | 0 | 04/06/93 | TU-130-001 POUR TURNTABLE ASSEMBLY | |
| 40 | P068 | H-2-120302 | 4 | 0 | 04/06/93 | TU-130-001 POUR TURNTABLE ASSEMBLY | |
| 40 | P068 | H-2-120302 | 5 | 0 | 04/06/93 | TU-130-001 POUR TURNTABLE ASSEMBLY | |
| 40 | P068 | H-2-120302 | 6 | 0 | 04/06/93 | TU-130-001 POUR TURNTABLE ASSEMBLY | |
| 40 | P068 | H-2-120302 | 7 | 0 | 04/06/93 | TU-130-001 POUR TURNTABLE ASSEMBLY | |
| 40 | P068 | H-2-120302 | 8 | 0 | 04/06/93 | TU-130-001 POUR TURNTABLE ASSEMBLY | |
| 40 | P068 | H-2-120302 | 9 | 0 | 04/06/93 | TU-130-001 POUR TURNTABLE ASSEMBLY | |
| 40 | P068 | H-2-120302 | 10 | 0 | 04/06/93 | TU-130-001 POUR TURNTABLE ASSEMBLY | |
| 40 | P068 | H-2-120302 | 11 | 0 | 04/06/93 | TU-130-001 LIMIT SWITCH BRACKET WELDMENT | |
| 40 | P068 | H-2-120302 | 12 | 0 | 04/06/93 | TU-130-001 DRIVE ARM & PLUNGER ASSEMBLIES | |
| 40 | P068 | H-2-120302 | 13 | 0 | 04/06/93 | TU-130-001 BASE WELDMENT | |
| 40 | P068 | H-2-120302 | 14 | 0 | 04/06/93 | TU-130-001 WHEEL COVER DETAILS | |
| 40 | P068 | H-2-120302 | 15 | 0 | 04/06/93 | TU-130-001 WHEEL COVER ASSEMBLY | |
| 40 | P068 | H-2-120302 | 16 | 0 | 04/06/93 | TU-130-001 BEVEL GEAR | |
| 40 | P068 | H-2-120302 | 17 | 0 | 04/06/93 | TU-130-001 ASSEMBLY & DETAILS | |
| 40 | P068 | H-2-120302 | 18 | 0 | 04/06/93 | TU-130-001 DETAILS | |
| 40 | P068 | H-2-120303 | 1 | 0 | 04/06/93 | TU-130-001 CANISTER GUIDE WELDMENT | |
| 40 | P068 | H-2-120303 | 2 | 0 | 04/06/93 | TU-130-001 CANISTER GUIDE DETAILS | |
| 40 | P068 | H-2-120304 | 1 | 0 | 04/06/93 | TU-130-001 CART, SPIDER DRIVE SUPPORT ASSEMBLY | |

00/PIPING & INSTRUMENT DIAGRAMS, 05/CIVIL, 10/HVAC, 20/STRUCTURAL, 30/ARCHITECTURAL, 40/MECHANICAL, 50/PIPING, 51/FIRE PROTECTION,
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PAGE 2
DATE 04/07/93
CONTRACT 80845734

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COORDS LISTING OF DRAWINGS FOR PKG P068

| DISC | PACKAGE | DRAWING NUMBER | SHT NO. | REV | SIGNATURE DATE | DRAWING TITLE | REMARKS |
|------|---------|-------------------|------------|-----|-------------------|---|---------|
| 40 | P068 | H-2-120304 | 2 | 0 | 04/06/93 | TU-130-001 CART, SPIDER DRIVE SUPPORT DETAILS | |
| 40 | P068 | H-2-120305 | 1 | 0 | 04/06/93 | TU-130-001 POUR TURNTABLE CART DRIVE PARTS LIST & NOTES | |
| 40 | P068 | H-2-120305 | 2 | 0 | 04/06/93 | TU-130-001 CART DRIVE SUPPORT DETAILS | |
| 40 | P068 | H-2-120306 | 1 | 0 | 04/06/93 | TU-130-001 SPIDER DRIVE MOTOR PARTS LIST & NOTES | |
| 40 | P068 | H-2-120306 | 2 | 0 | 04/06/93 | TU-130-001 SPIDER DRIVE MOTOR ASSEMBLY | |
| 40 | P068 | H-2-120306 | 3 | 0 | 04/06/93 | TU-130-001 SPIDER DRIVE MOTOR ASSEMBLY | |
| 40 | P068 | H-2-120306 | 4 | 0 | 04/06/93 | TU-130-001 MOUNTING PLATE | |
| 40 | P068 | H-2-120306 | 5 | 0 | 04/06/93 | TU-130-001 LIMIT SWITCH MOUNTING ASSEMBLY | |
| 40 | P068 | H-2-120306 | 6 | 0 | 04/06/93 | TU-130-001 SPIDER DRIVE MOTOR FRAME WELDMENT | |
| 40 | P068 | H-2-120306 | 7 | 0 | 04/06/93 | TU-130-001 SPIDER DRIVE MOTOR FRAME WELDMENT | |
| 40 | P068 | H-2-120306 | 8 | 0 | 04/06/93 | TU-130-001 SPIDER DRIVE MOTOR FRAME WELDMENT | |
| 40 | P068 | H-2-120306 | 9 | 0 | 04/06/93 | TU-130-001 SPIDER DRIVE MOTOR DETAILS | |
| 40 | P068 | H-2-120306 | 10 | 0 | 04/06/93 | TU-130-001 SPIDER DRIVE MOTOR DETAILS | |
| 40 | P068 | H-2-120306 | 11 | 0 | 04/06/93 | TU-130-001 SPIDER DRIVE MOTOR DETAILS | |
| 40 | P068 | H-2-120306 | 12 | 0 | 04/06/93 | TU-130-001 SPIDER DRIVE MOTOR DETAILS | |
| 40 | P068 | H-2-120306 | 13 | 0 | 04/06/93 | TU-130-001 PILLOW BLOCK SUPPORT | |
| 40 | P068 | H-2-120306 | 14 | 0 | 04/06/93 | TU-130-001 SHAFT EXTENSION ASSEMBLY | |
| 40 | P068 | H-2-120307 | 1 | 0 | 04/06/93 | TU-130-001 OUTER RAIL PARTS LIST & NOTES | |
| 40 | P068 | H-2-120307 | 2 | 0 | 04/06/93 | TU-130-001 OUTER RAILS | |
| 40 | P068 | H-2-120307 | 3 | 0 | 04/06/93 | TU-130-001 INNER RAILS | |
| 40 | P068 | H-2-120308 | 1 | 0 | 04/06/93 | TU-130-001 CART DR MOT ASSY PARTS LIST & NOTES | |
| 40 | P068 | H-2-120308 | 2 | 0 | 04/06/93 | TU-130-001 CART DRIVE MOTOR WELDMENT | |
| 40 | P068 | H-2-120308 | 3 | 0 | 04/06/93 | TU-130-001 CART DRIVE MOTOR SPLASH GUARD ASSY | |
| 40 | P068 | H-2-120308 | 4 | 0 | 04/06/93 | TU-130-001 CART DRIVE MOTOR DETAILS | |

00/PIPING & INSTRUMENT DIAGRAMS, 05/CIVIL, 10/HVAC, 20/STRUCTURAL, 30/ARCHITECTURAL, 40/MECHANICAL, 50/PIPING, 51/FIRE PROTECTION,
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PAGE 3
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CONTRACT 80845734

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|------|---------|-------------------|------------|-----|-------------------|--|---------|
| 40 | P068 | H-2-120309 | 1 | 0 | 04/06/93 | TU-130-001 CANISTER DOLLY ASSEMBLY PARTS LIST & NOTES | |
| 40 | P068 | H-2-120309 | 2 | 0 | 04/06/93 | TU-130-001 CANISTER DOLLY ASSEMBLY | |
| 40 | P068 | H-2-120309 | 3 | 0 | 04/06/93 | TU-130-001 CANISTER DOLLY TRUNNION LIFTING WELDMENT & DETS | |
| 40 | P068 | H-2-120309 | 4 | 0 | 04/06/93 | TU-130-001 CANISTER DOLLY WELDMENT | |
| 40 | P068 | H-2-120309 | 5 | 0 | 04/06/93 | TU-130-001 CANISTER DOLLY TOP PLATE DETAIL | |
| 40 | P068 | H-2-120309 | 6 | 0 | 04/06/93 | TU-130-001 CANISTER DOLLY BASE PLATE DETAIL | |
| 40 | P068 | H-2-120309 | 7 | 0 | 04/06/93 | TU-130-001 CANISTER DOLLY BODY DETAILS | |
| 40 | P068 | H-2-120309 | 8 | 0 | 04/06/93 | TU-130-001 CANISTER DOLLY WHEEL MOUNTING PLATE DETAIL | |
| 40 | P068 | H-2-120309 | 9 | 0 | 04/06/93 | TU-130-001 CANISTER DOLLY COVER DETAIL | |
| 40 | P068 | H-2-120310 | 1 | 0 | 04/06/93 | TU-130-001 LIFTING TRUNNION WELDMENT PARTS LIST & NOTES | |
| 40 | P068 | H-2-120310 | 2 | 0 | 04/06/93 | TU-130-001 LIFTING TRUNNION WELDMENT DETAILS | |
| 40 | P068 | H-2-120311 | 1 | 0 | 04/06/93 | TU-130-001 CART SUPPORT ASSEMBLY PARTS LIST & NOTES | |
| 40 | P068 | H-2-120311 | 2 | 0 | 04/06/93 | TU-130-001 CART SUPPORT DETAILS | |
| 40 | P068 | H-2-120312 | 1 | 0 | 04/06/93 | TU-130-001 CART DRIVE PARTS LIST & NOTES | |
| 40 | P068 | H-2-120312 | 2 | 0 | 04/06/93 | TU-130-001 CART DRIVE ASSEMBLY | |
| 40 | P068 | H-2-120312 | 3 | 0 | 04/06/93 | TU-130-001 SPLASH GUARD WHEEL DRIVE LEFT SIDE ASSEMBLY | |
| 40 | P068 | H-2-120312 | 4 | 0 | 04/06/93 | TU-130-001 SPLASH GUARD WHEEL DRIVE RIGHT SIDE ASSEMBLY | |
| 40 | P068 | H-2-120312 | 5 | 0 | 04/06/93 | TU-130-001 CLUTCH COUPLING COVER AND SUPPORT ASSEMBLY | |
| 40 | P068 | H-2-120312 | 6 | 0 | 04/06/93 | TU-130-001 SPLASH GUARD WHEEL DRIVE LEFT SIDE DETAILS | |
| 40 | P068 | H-2-120312 | 7 | 0 | 04/06/93 | TU-130-001 SPLASH GUARD WHEEL DRIVE RIGHT SIDE DETAILS | |
| 40 | P068 | H-2-120312 | 8 | 0 | 04/06/93 | TU-130-001 CLUTCH COUPLING COVER DETAILS | |
| 40 | P068 | H-2-120312 | 9 | 0 | 04/06/93 | TU-130-001 CLUTCH COUPLING DETAILS | |
| 40 | P068 | H-2-120312 | 10 | 0 | 04/06/93 | TU-130-001 SHAFT AND SPACER DETAILS | |
| 40 | P068 | H-2-120312 | 11 | 0 | 04/06/93 | TU-130-001 MODIFIED GEARED WHEEL DETAIL | |

00/PIPING & INSTRUMENT DIAGRAMS, 05/CIVIL, 10/HVAC, 20/STRUCTURAL, 30/ARCHITECTURAL, 40/MECHANICAL, 50/PIPING, 51/FIRE PROTECTION,
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PAGE 4
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|------|---------|-------------------|------------|-----|-------------------|---|---------|
| 40 | P068 | H-2-120313 | 1 | 0 | 04/06/93 | TU-130-001 FIXED STOP ASSEMBLY PARTS LIST & NOTES | |
| 40 | P068 | H-2-120313 | 2 | 0 | 04/06/93 | TU-130-001 FIXED STOP WELDMENT & PLUNGER | |
| 40 | P068 | H-2-120313 | 3 | 0 | 04/06/93 | TU-130-001 FIXED STOP DETAILS | |
| 40 | P068 | H-2-120314 | 1 | 0 | 04/06/93 | TU-130-001 SPIDER DRIVE ASSEMBLY PARTS LIST & NOTES | |
| 40 | P068 | H-2-120314 | 2 | 0 | 04/06/93 | TU-130-001 WELDMENT, DRIVE BASE & SUB-WELDMENT | |
| 40 | P068 | H-2-120314 | 3 | 0 | 04/06/93 | TU-130-001 SPIDER DRIVE DETAILS | |
| 40 | P068 | H-2-120314 | 4 | 0 | 04/06/93 | TU-130-001 SPIDER DRIVE RAIL DETAILS | |
| 40 | P068 | H-2-120314 | 5 | 0 | 04/06/93 | TU-130-001 SPIDER DRIVE DETAILS | |
| 40 | P068 | H-2-120314 | 6 | 0 | 04/06/93 | TU-130-001 SPIDER DRIVE WELDMENT DETAILS | |
| 40 | P068 | H-2-120314 | 7 | 0 | 04/06/93 | TU-130-001 SPIDER DRIVE DETAILS | |
| 40 | P068 | H-2-120315 | 1 | 0 | 04/06/93 | TU-130-001 CART ASSEMBLY PARTS LIST & NOTES | |
| 40 | P068 | H-2-120315 | 2 | 0 | 04/06/93 | TU-130-001 CART ASSEMBLY | |
| 40 | P068 | H-2-120315 | 3 | 0 | 04/06/93 | TU-130-001 CART ASSEMBLY | |
| 40 | P068 | H-2-120316 | 1 | 0 | 04/06/93 | TU-130-001 UPPER FRAME ASSEMBLY PARTS LIST & NOTES | |
| 40 | P068 | H-2-120316 | 2 | 0 | 04/06/93 | TU-130-001 UPPER FRAME ASSEMBLY | |
| 40 | P068 | H-2-120316 | 3 | 0 | 04/06/93 | TU-130-001 UPPER FRAME ASSEMBLY | |
| 40 | P068 | H-2-120316 | 4 | 0 | 04/06/93 | TU-130-001 UPPER FRAME ASSEMBLY | |
| 40 | P068 | H-2-120316 | 5 | 0 | 04/06/93 | TU-130-001 SUPPORT RAIL A ASSEMBLY & DETAILS | |
| 40 | P068 | H-2-120316 | 6 | 0 | 04/06/93 | TU-130-001 SUPPORT RAIL B ASSEMBLY & DETAILS | |
| 40 | P068 | H-2-120316 | 7 | 0 | 04/06/93 | TU-130-001 SUPPORT RAIL C ASSEMBLY & DETAILS | |
| 40 | P068 | H-2-120316 | 8 | 0 | 04/06/93 | TU-130-001 SUPPORT RAIL D ASSEMBLY & DETAILS | |
| 40 | P068 | H-2-120316 | 9 | 0 | 04/06/93 | TU-130-001 UPPER FRAME DETAILS | |
| 40 | P068 | H-2-120316 | 10 | 0 | 04/06/93 | TU-130-001 UPPER FRAME DETAILS | |
| 40 | P068 | H-2-120316 | 11 | 0 | 04/06/93 | TU-130-001 UPPER FRAME DETAILS | |

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PAGE 5
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|------|---------|-------------------|------------|-----|-------------------|--|---------|
| 40 | P068 | H-2-120317 | 1 | 0 | 04/06/93 | TU-130-001 LOWER FRAME ASSY PARTS LIST & NOTES | |
| 40 | P068 | H-2-120317 | 2 | 0 | 04/06/93 | TU-130-001 POUR TURNTABLE LOWER FRAME ASSEMBLY | |
| 40 | P068 | H-2-120317 | 3 | 0 | 04/06/93 | TU-130-001 LOWER FRAME ASSEMBLY | |
| 40 | P068 | H-2-120317 | 4 | 0 | 04/06/93 | TU-130-001 LOWER FRAME BEAMS SECTIONS | |
| 40 | P068 | H-2-120317 | 5 | 0 | 04/06/93 | TU-130-001 STOP FIXED HOLDER DETAILS | |
| 40 | P068 | H-2-120317 | 6 | 0 | 04/06/93 | TU-130-001 ROLLER DRUM & BRACKET ASSY DETAILS | |
| 40 | P068 | H-2-120317 | 7 | 0 | 04/06/93 | TU-130-001 LOWER FRAME ASSEMBLY PARTS DETAILS | |
| 40 | P068 | H-2-120317 | 8 | 0 | 04/06/93 | TU-130-001 LOWER FRAME ASSEMBLY PARTS DETAILS | |
| 40 | P068 | H-2-120318 | 1 | 0 | 04/06/93 | TU-130-001 CAROUSEL ASSEMBLY | |
| 40 | P068 | H-2-120318 | 2 | 0 | 04/06/93 | TU-130-001 CAROUSEL ASSEMBLY | |
| 40 | P068 | H-2-120318 | 3 | 0 | 04/06/93 | TU-130-001 CAROUSEL DETAILS | |
| 40 | P068 | H-2-120318 | 4 | 0 | 04/06/93 | TU-130-001 CAROUSEL SUB-WELDMENT | |
| 40 | P068 | H-2-120319 | 1 | 0 | 04/06/93 | TU-130-001 CONDUIT & CABLE ASSEMBLY | |
| 40 | P068 | H-2-120319 | 2 | 0 | 04/06/93 | TU-130-001 CONDUIT & CABLE ASSEMBLY | |
| 40 | P068 | H-2-120319 | 3 | 0 | 04/06/93 | TU-130-001 CONDUIT & CABLE ASSEMBLY | |
| 40 | P068 | H-2-120319 | 4 | 0 | 04/06/93 | TU-130-001 CONDUIT & CABLE ASSEMBLY | |
| 40 | P068 | H-2-120319 | 5 | 0 | 04/06/93 | TU-130-001 CONDUIT & CABLE ASSY DETAILS | |
| 40 | P068 | H-2-120319 | 6 | 0 | 04/06/93 | TU-130-001 CONDUIT & CABLE ASSY DETAILS | |
| 40 | P068 | H-2-120319 | 7 | 0 | 04/06/93 | TU-130-001 CONDUIT & CABLE ASSY DETAILS | |
| 40 | P068 | H-2-120320 | 1 | 0 | 04/06/93 | TU-130-001 CART HEAT SHIELD SUPPORT | |
| 40 | P068 | H-2-120368 | 1 | 0 | 04/06/93 | TU-130-002 DRAIN TURNTABLE PARTS LIST & NOTES | |
| 40 | P068 | H-2-120368 | 2 | 0 | 04/06/93 | TU-130-002 DRAIN TURNTABLE ASSEMBLY | |
| 40 | P068 | H-2-120368 | 3 | 0 | 04/06/93 | TU-130-002 DRAIN TURNTABLE ASSEMBLY | |
| 40 | P068 | H-2-120368 | 4 | 0 | 04/06/93 | TU-130-002 DRAIN TURNTABLE ASSEMBLY | |

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PAGE 6
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|------|---------|-------------------|------------|-----|-------------------|---|---------|
| 40 | P068 | H-2-120368 | 5 | 0 | 04/06/93 | TU-130-002 DRAIN TURNTABLE ASSEMBLY | |
| 40 | P068 | H-2-120368 | 6 | 0 | 04/06/93 | TU-130-002 DRAIN TURNTABLE ASSEMBLY | |
| 40 | P068 | H-2-120368 | 7 | 0 | 04/06/93 | TU-130-002 DRAIN TURNTABLE ASSEMBLY | |
| 40 | P068 | H-2-120368 | 8 | 0 | 04/06/93 | TU-130-002 DRAIN TURNTABLE ASSEMBLY | |
| 40 | P068 | H-2-120368 | 9 | 0 | 04/06/93 | TU-130-002 DRAIN TURNTABLE ASSEMBLY | |
| 40 | P068 | H-2-120368 | 10 | 0 | 04/06/93 | TU-130-002 DRIVE ARM ASSEMBLY & DETAILS | |
| 40 | P068 | H-2-120368 | 11 | 0 | 04/06/93 | TU-130-002 WHEEL COVER ASSEMBLY & DETAILS | |
| 40 | P068 | H-2-120368 | 12 | 0 | 04/06/93 | TU-130-002 WHEEL COVER ASSEMBLY & DETAILS | |
| 40 | P068 | H-2-120368 | 13 | 0 | 04/06/93 | TU-130-002 BASE WELDMENT | |
| 40 | P068 | H-2-120368 | 14 | 0 | 04/06/93 | TU-130-002 DRAIN TURNTABLE DETAILS | |
| 40 | P068 | H-2-120368 | 15 | 0 | 04/06/93 | TU-130-002 ENCLOSURE MTG BRACKET ASSEMBLY & DETAILS | |
| 40 | P068 | H-2-120368 | 16 | 0 | 04/06/93 | TU-130-002 DRAIN TURNTABLE DETAILS | |
| 40 | P068 | H-2-120368 | 17 | 0 | 04/06/93 | TU-130-002 DRAIN TURNTABLE DETAILS | |
| 40 | P068 | H-2-120368 | 18 | 0 | 04/06/93 | TU-130-002 DRAIN TURNTABLE DETAILS | |
| 40 | P068 | H-2-120368 | 19 | 0 | 04/06/93 | TU-130-002 LIMIT SWITCH WELDMENT | |
| 40 | P068 | H-2-120368 | 20 | 0 | 04/06/93 | TU-130-002 DRAIN TURNTABLE SECTIONS & VIEWS | |
| 40 | P068 | H-2-120369 | 1 | 0 | 04/06/93 | TU-130-002 CANISTER GUIDE WELDMENT PARTS LIST & NOTES | |
| 40 | P068 | H-2-120369 | 2 | 0 | 04/06/93 | TU-130-002 DRAIN TURN TABLE CANISTER GUIDE DETAILS | |
| 40 | P068 | H-2-120370 | 1 | 0 | 04/06/93 | TU-130-002 CANISTER DOLLY ASSEMBLY PARTS LIST & NOTES | |
| 40 | P068 | H-2-120370 | 2 | 0 | 04/06/93 | TU-130-002 CANISTER DOLLY WELDMENT | |
| 40 | P068 | H-2-120370 | 3 | 0 | 04/06/93 | TU-130-002 LIFTING TRUNNION WELDMENT | |
| 40 | P068 | H-2-120370 | 4 | 0 | 04/06/93 | TU-130-002 CANISTER DOLLY TOP PLATE DETAIL | |
| 40 | P068 | H-2-120370 | 5 | 0 | 04/06/93 | TU-130-002 CANISTER DOLLY WHEEL MOUNTING DETAIL | |
| 40 | P068 | H-2-120370 | 6 | 0 | 04/06/93 | TU-130-002 CANISTER DOLLY COVER DETAIL | |

00/PIPING & INSTRUMENT DIAGRAMS, 05/CIVIL, 10/HVAC, 20/STRUCTURAL, 30/ARCHITECTURAL, 40/MECHANICAL, 50/PIPING, 51/FIRE PROTECTION,
60/ELECTRICAL, 70/CONTROL SYSTEMS, 90/MISCELLANEOUS

PAGE 7
DATE 04/07/93
CONTRACT 80845734

Time: 11:17 AM

HANFORD WASTE VITRIFICATION PLANT
COORDS LISTING OF DRAWINGS FOR PKG P068

| DISC | PACKAGE | DRAWING NUMBER | SMT NO. | REV | SIGNATURE DATE | DRAWING TITLE | REMARKS |
|------|---------|-------------------|------------|-----|-------------------|--|---------|
| 40 | P068 | H-2-120370 | 7 | 0 | 04/06/93 | TU-130-002 LIFTING TRUNNION DETAILS | |
| 40 | P068 | H-2-120370 | 8 | 0 | 04/06/93 | TU-130-002 CANISTER DOLLY DETAILS | |
| 40 | P068 | H-2-120371 | 1 | 0 | 04/06/93 | TU-130-002 DOLLY RAILS OUTER RAIL | |
| 40 | P068 | H-2-120371 | 2 | 0 | 04/06/93 | TU-130-002 DOLLY RAILS INNER RAIL | |
| 40 | P068 | H-2-120371 | 3 | 0 | 04/06/93 | TU-130-002 DOLLY RAILS OUTER RAILS | |
| 40 | P068 | H-2-120371 | 4 | 0 | 04/06/93 | TU-130-002 DOLLY RAILS OUTER RAIL | |
| 40 | P068 | H-2-120372 | 1 | 0 | 04/06/93 | TU-130-002 DIMENSIONAL RECORD DRAWING | |
| 40 | P068 | H-2-120372 | 2 | 0 | 04/06/93 | TU-130-002 DIMENSIONAL RECORD DRAWING | |
| 40 | P068 | H-2-120372 | 3 | 0 | 04/06/93 | TU-130-002 DIMENSIONAL RECORD DRAWING | |
| 40 | P068 | H-2-120374 | 1 | 0 | 04/06/93 | TU-130-002 CAROUSEL ASSEMBLY | |
| 40 | P068 | H-2-120374 | 2 | 0 | 04/06/93 | TU-130-002 CAROUSEL ASSEMBLY | |
| 40 | P068 | H-2-120374 | 3 | 0 | 04/06/93 | TU-130-002 CAROUSEL DETAILS | |
| 40 | P068 | H-2-120374 | 4 | 0 | 04/06/93 | TU-130-002 CAROUSEL SUB-WELDMENT | |
| 40 | P068 | H-2-120375 | 1 | 0 | 04/06/93 | TU-130-002 CANISTER LID CLOSURE SPRT ASSY PARTS LIST & NOTES | |
| 40 | P068 | H-2-120375 | 2 | 0 | 04/06/93 | TU-130-002 CANISTER LID CLOSURE SUPPORT DET | |
| 40 | P068 | H-2-120376 | 1 | 0 | 04/06/93 | TU-130-002 LIFTING TRUNNION WELDMENT PARTS LIST & NOTES | |
| 40 | P068 | H-2-120376 | 2 | 0 | 04/06/93 | TU-130-002 LIFTING TRUNNION DETAILS | |
| 40 | P068 | H-2-120377 | 1 | 0 | 04/06/93 | TU-130-002 CART DR MOT ASSY PARTS LIST & NOTES | |
| 40 | P068 | H-2-120377 | 2 | 0 | 04/06/93 | TU-130-002 CART DRIVE MOTOR WELDMENT | |
| 40 | P068 | H-2-120377 | 3 | 0 | 04/06/93 | TU-130-002 CART DRIVE MOTOR WELDMENT DETAILS | |
| 40 | P068 | H-2-120377 | 4 | 0 | 04/06/93 | TU-130-002 CART DRIVE MOTOR SPLASH GUARD ASSY | |
| 40 | P068 | H-2-120377 | 5 | 0 | 04/06/93 | TU-130-002 CART DRIVE MOTOR SPLASH GUARD DET | |
| 40 | P068 | H-2-120378 | 1 | 0 | 04/06/93 | TU-130-002 SPIDER DRIVE ASSEMBLY PARTS LIST & NOTES | |
| 40 | P068 | H-2-120378 | 2 | 0 | 04/06/93 | TU-130-002 WELDMENT DRIVE BASE & SUB-WELDMENT | |

00/PIPING & INSTRUMENT DIAGRAMS, 05/CIVIL, 10/HVAC, 20/STRUCTURAL, 30/ARCHITECTURAL, 40/MECHANICAL, 50/PIPING, 51/FIRE PROTECTION,
60/ELECTRICAL, 70/CONTROL SYSTEMS, 90/MISCELLANEOUS

PAGE 8
DATE 04/07/93
CONTRACT 80845734

Time: 11:17 AM

HANFORD WASTE VITRIFICATION PLANT
COORDS LISTING OF DRAWINGS FOR PKG P06B

| DISC | PACKAGE | DRAWING NUMBER | SHT NO. | REV | SIGNATURE DATE | DRAWING TITLE | REMARKS |
|------|---------|-------------------|------------|-----|-------------------|--|---------|
| 40 | P06B | H-2-120378 | 3 | 0 | 04/06/93 | TU-130-002 SPIDER DRIVE DETAILS | |
| 40 | P06B | H-2-120378 | 4 | 0 | 04/06/93 | TU-130-002 SPIDER DRIVE RAILS | |
| 40 | P06B | H-2-120378 | 5 | 0 | 04/06/93 | TU-130-002 SPIDER DRIVE DETAILS | |
| 40 | P06B | H-2-120378 | 6 | 0 | 04/06/93 | TU-130-002 SPIDER DRIVE DETAILS | |
| 40 | P06B | H-2-120378 | 7 | 0 | 04/06/93 | TU-130-002 SPIDER DRIVE DETAILS | |
| 40 | P06B | H-2-120379 | 1 | 0 | 04/06/93 | TU-130-002 DRAIN TURNTABLE CART ASSY, PARTS LIST AND NOTES | |
| 40 | P06B | H-2-120379 | 2 | 0 | 04/06/93 | TU-130-002 DRAIN TURNTABLE CART TOP VIEW | |
| 40 | P06B | H-2-120379 | 3 | 0 | 04/06/93 | TU-130-002 DRAIN TURNTABLE CART SIDE VIEW | |
| 40 | P06B | H-2-120380 | 1 | 0 | 04/06/93 | TU-130-002 CART SPIDER DRIVE SPRT ASSEMBLY | |
| 40 | P06B | H-2-120380 | 2 | 0 | 04/06/93 | TU-130-002 CART SPIDER DRIVE SUPPORT DETAILS | |
| 40 | P06B | H-2-120381 | 1 | 0 | 04/06/93 | TU-130-002 CART BASE PARTS LIST & NOTES | |
| 40 | P06B | H-2-120381 | 2 | 0 | 04/06/93 | TU-130-002 CART BASE ASSEMBLY | |
| 40 | P06B | H-2-120381 | 3 | 0 | 04/06/93 | TU-130-002 CART BASE ASSEMBLY | |
| 40 | P06B | H-2-120381 | 4 | 0 | 04/06/93 | TU-130-002 CART BASE ASSEMBLY | |
| 40 | P06B | H-2-120381 | 5 | 0 | 04/06/93 | TU-130-002 CART BASE WELDMENT | |
| 40 | P06B | H-2-120381 | 6 | 0 | 04/06/93 | TU-130-002 CART BASE WELDMENT | |
| 40 | P06B | H-2-120381 | 7 | 0 | 04/06/93 | TU-130-002 CART BASE MACHINING | |
| 40 | P06B | H-2-120381 | 8 | 0 | 04/06/93 | TU-130-002 CART BASE BEAM WELDMENT | |
| 40 | P06B | H-2-120381 | 9 | 0 | 04/06/93 | TU-130-002 CART BASE BEAM WELDMENT | |
| 40 | P06B | H-2-120381 | 10 | 0 | 04/06/93 | TU-130-002 CART BASE WELDMENT | |
| 40 | P06B | H-2-120381 | 11 | 0 | 04/06/93 | TU-130-002 CART BASE DETAILS | |
| 40 | P06B | H-2-120381 | 12 | 0 | 04/06/93 | TU-130-002 CART BASE SUPPORT RAILS | |
| 40 | P06B | H-2-120381 | 13 | 0 | 04/06/93 | TU-130-002 CART BASE SUPPORT RAILS | |
| 40 | P06B | H-2-120381 | 14 | 0 | 04/06/93 | TU-130-002 CART BASE SUPPORT RAIL DETAIL | |

00/PIPING & INSTRUMENT DIAGRAMS, 05/CIVIL, 10/HVAC, 20/STRUCTURAL, 30/ARCHITECTURAL, 40/MECHANICAL, 50/PIPING, 51/FIRE PROTECTION,
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PAGE 9
DATE 04/07/93
CONTRACT 80845734

Time: 11:17 AM

HANFORD WASTE VITRIFICATION PLANT
COORDS LISTING OF DRAWINGS FOR PKG P06B

| DISC | PACKAGE | DRAWING NUMBER | SHT NO. | REV | SIGNATURE DATE | DRAWING TITLE | REMARKS |
|------|---------|-------------------|------------|-----|-------------------|---|---------|
| 40 | P06B | H-2-120381 | 15 | 0 | 04/06/93 | TU-130-002 CART BASE DETAILS | |
| 40 | P06B | H-2-120381 | 16 | 0 | 04/06/93 | TU-130-002 CART BASE DETAILS | |
| 40 | P06B | H-2-120381 | 17 | 0 | 04/06/93 | TU-130-002 CART BASE DETAILS | |
| 40 | P06B | H-2-120381 | 18 | 0 | 04/06/93 | TU-130-002 CART BASE DETAILS | |
| 40 | P06B | H-2-120381 | 19 | 0 | 04/06/93 | TU-130-002 CART BASE DETAILS | |
| 40 | P06B | H-2-120381 | 20 | 0 | 04/06/93 | TU-130-002 CART BASE DETAILS | |
| 40 | P06B | H-2-120381 | 21 | 0 | 04/06/93 | TU-130-002 CART BASE DETAILS | |
| 40 | P06B | H-2-120381 | 22 | 0 | 04/06/93 | TU-130-002 CART BASE DETAILS | |
| 40 | P06B | H-2-120381 | 23 | 0 | 04/06/93 | TU-130-002 CART BASE WELDMENT & DETAILS | |
| 40 | P06B | H-2-120382 | 1 | 0 | 04/06/93 | TU-130-002 CART DRIVE SUPPORT ASSEMBLY PARTS LIST & NOTES | |
| 40 | P06B | H-2-120382 | 2 | 0 | 04/06/93 | TU-130-002 CART DRIVE SUPPORT DETAILS | |
| 40 | P06B | H-2-120382 | 3 | 0 | 04/06/93 | TU-130-002 CART DRIVE SUPPORT DETAILS | |
| 40 | P06B | H-2-120383 | 1 | 0 | 04/06/93 | TU-130-002 FIXED STOP ASSEMBLY PARTS LIST & NOTES | |
| 40 | P06B | H-2-120383 | 2 | 0 | 04/06/93 | TU-130-002 FIXED STOP WELDMENT & PLUNGER ASSEMBLY | |
| 40 | P06B | H-2-120383 | 3 | 0 | 04/06/93 | TU-130-002 FIXED STOP DETAILS | |
| 40 | P06B | H-2-120384 | 1 | 0 | 04/06/93 | TU-130-002 LIMIT SWITCH ASSEMBLY PARTS LIST & NOTES | |
| 40 | P06B | H-2-120384 | 2 | 0 | 04/06/93 | TU-130-002 LIMIT SWITCH ASSEMBLY PART DETAILS | |
| 40 | P06B | H-2-120384 | 3 | 0 | 04/06/93 | TU-130-002 LIMIT SWITCH ASSEMBLY PARTS DETAILS | |
| 40 | P06B | H-2-120385 | 1 | 0 | 04/06/93 | TU-130-002 CART DRIVE PARTS LIST & NOTES | |
| 40 | P06B | H-2-120385 | 2 | 0 | 04/06/93 | TU-130-002 CART DRIVE ASSEMBLY | |
| 40 | P06B | H-2-120385 | 3 | 0 | 04/06/93 | TU-130-002 CART DR SPLASH GUARD WHEEL DR RIGHT SIDE ASSY | |
| 40 | P06B | H-2-120385 | 4 | 0 | 04/06/93 | TU-130-002 CART DR SPLASH GUARD WHEEL DR RIGHT SIDE DETS | |
| 40 | P06B | H-2-120385 | 5 | 0 | 04/06/93 | TU-130-002 CART DR SPLASH GUARD WHEEL DR RIGHT SIDE DETS | |
| 40 | P06B | H-2-120385 | 6 | 0 | 04/06/93 | TU-130-002 CART DR SPLASH GUARD WHEEL DR LEFT SIDE ASSY | |

00/PIPING & INSTRUMENT DIAGRAMS, 05/CIVIL, 10/HVAC, 20/STRUCTURAL, 30/ARCHITECTURAL, 40/MECHANICAL, 50/PIPING, 51/FIRE PROTECTION,
60/ELECTRICAL, 70/CONTROL SYSTEMS, 90/MISCELLANEOUS

PAGE 10
DATE 04/07/93
CONTRACT 80845734

Time: 11:17 AM

HANFORD WASTE VITRIFICATION PLANT
COORDS LISTING OF DRAWINGS FOR PKG P068

| DISC | PACKAGE | DRAWING NUMBER | SHT NO. | REV | SIGNATURE DATE | DRAWING TITLE | REMARKS |
|------|---------|-------------------|------------|-----|-------------------|--|---------|
| 40 | P068 | H-2-120385 | 7 | 0 | 04/06/93 | TU-130-002 CART DR SPLASH GUARD WHEEL DR LEFT SIDE DETS | |
| 40 | P068 | H-2-120385 | 8 | 0 | 04/06/93 | TU-130-002 CART DRIVE CLUTCH COUPLING COVER AND SUPPORT ASSY | |
| 40 | P068 | H-2-120385 | 9 | 0 | 04/06/93 | TU-130-002 CART DRIVE CLUTCH COUPLING COVER DETAILS | |
| 40 | P068 | H-2-120385 | 10 | 0 | 04/06/93 | TU-130-002 CART DRIVE CLUTCH COUPLING SUPPORT DETAILS | |
| 40 | P068 | H-2-120385 | 11 | 0 | 04/06/93 | TU-130-002 CART DRIVE CLUTCH COUPLING SHAFT AND SPACER DETS | |
| 40 | P068 | H-2-120385 | 12 | 0 | 04/06/93 | TU-130-002 CART DRIVE MODIFIED GEAR WHEEL DETAIL | |
| 40 | P068 | H-2-120386 | 1 | 0 | 04/06/93 | TU-130-002 SPIDER DR MOT ASSY PARTS LIST & NOTES | |
| 40 | P068 | H-2-120386 | 2 | 0 | 04/06/93 | TU-130-002 SPIDER DRIVE MOTOR WELDMENT | |
| 40 | P068 | H-2-120386 | 3 | 0 | 04/06/93 | TU-130-002 SPIDER DRIVE MOTOR DETAILS | |
| 40 | P068 | H-2-120386 | 4 | 0 | 04/06/93 | TU-130-002 SPIDER DRIVE MOTOR HEAT SHIELD ASSY | |
| 40 | P068 | H-2-120386 | 5 | 0 | 04/06/93 | TU-130-002 SPIDER DRIVE MOTOR HEAT SHIELD DETAILS | |
| 40 | P068 | H-2-120386 | 6 | 0 | 04/06/93 | TU-130-002 SPIDER DRIVE MOTOR HEAT SHIELD DETAILS | |
| 40 | P068 | H-2-120388 | 1 | 0 | 04/06/93 | TU-130-002 CONDUIT & CABLE ASSEMBLY PARTS LIST & NOTES | |
| 40 | P068 | H-2-120388 | 2 | 0 | 04/06/93 | TU-130-002 CONDUIT & CABLE ASSEMBLY | |
| 40 | P068 | H-2-120388 | 3 | 0 | 04/06/93 | TU-130-002 CONDUIT & CABLE ASSEMBLY | |
| 40 | P068 | H-2-120388 | 4 | 0 | 04/06/93 | TU-130-002 CONDUIT & CABLE ASSEMBLY DETAILS | |
| 40 | P068 | H-2-120388 | 5 | 0 | 04/06/93 | TU-130-002 CONDUIT & CABLE ASSEMBLY DETAILS | |
| 40 | P068 | H-2-120388 | 6 | 0 | 04/06/93 | TU-130-002 CONDUIT & CABLE ASSEMBLY DETAILS | |
| 40 | P068 | H-2-120388 | 7 | 0 | 04/06/93 | TU-130-002 CONDUIT & CABLE ASSEMBLY DETAILS | |
| 40 | P068 | H-2-120390 | 1 | 0 | 04/06/93 | TU-130-002 SUPPORT BRACKET WELDMENT PARTS LIST & NOTES | |
| 40 | P068 | H-2-120390 | 2 | 0 | 04/06/93 | TU-130-002 LIMIT SWITCH SUPPORT DETAILS | |
| 40 | P068 | H-2-120392 | 1 | 0 | 04/06/93 | TU-130-002 EMERGENCY PULL BAR ASSEMBLY | |
| 40 | P068 | H-2-120392 | 2 | 0 | 04/06/93 | TU-130-002 EMERGENCY PULL BAR WELDMENT | |
| 40 | P068 | H-2-120392 | 3 | 0 | 04/06/93 | TU-130-002 EMERGENCY PULL BAR DETAILS | |

00/PIPING & INSTRUMENT DIAGRAMS, 05/CIVIL, 10/HVAC, 20/STRUCTURAL, 30/ARCHITECTURAL, 40/MECHANICAL, 50/PIPING, 51/FIRE PROTECTION,
60/ELECTRICAL, 70/CONTROL SYSTEMS, 90/MISCELLANEOUS

951336-0776
920-966156

PAGE 11
DATE 04/07/93
CONTRACT 80845734

Time: 11:17 AM

HANFORD WASTE VITRIFICATION PLANT
COORDS LISTING OF DRAWINGS FOR PKG P068

| DISC | PACKAGE | DRAWING NUMBER | SHT NO. | REV | SIGNATURE DATE | DRAWING TITLE | REMARKS |
|------|---------|-------------------|------------|-----|-------------------|--|---------|
| 40 | P068 | H-2-120392 | 4 | 0 | 04/06/93 | TU-130-002 EMERGENCY PULL BAR LIFTING LOOP | |
| 40 | P068 | H-2-120421 | 1 | 0 | 04/06/93 | TU-130-001/002 CART DRIVE COUPLING ASSY PARTS LIST & NOTES | |
| 40 | P068 | H-2-120421 | 2 | 0 | 04/06/93 | TU-130-001 TU-130-002 COUPLING ASSEMBLY & DETAILS | |
| 40 | P068 | H-2-120421 | 3 | 0 | 04/06/93 | TU-130-001 TU-130-002 CART DRIVE COUPLING DETAILS | |
| 40 | P068 | H-2-120422 | 1 | 0 | 04/06/93 | TU-130-001/002 EMERGENCY PULL ROPE ASSY PARTS LIST & NOTES | |
| 40 | P068 | H-2-120422 | 2 | 0 | 04/06/93 | TU-130-001 TU-130-002 EMERGENCY PULL ROPE DETAIL | |
| 40 | P068 | H-2-120422 | 3 | 0 | 04/06/93 | TU-130-001 TU-130-002 EMERGENCY PULL ROPE DETAILS | |
| 40 | P068 | H-2-120423 | 1 | 0 | 04/06/93 | TU-130-001/002 DOLLY PSNG GUIDE ASSEMBLY PARTS LIST & NOTES | |
| 40 | P068 | H-2-120424 | 1 | 0 | 04/06/93 | TU-130-001/002 STRUCTURAL TBG WELDMENT PARTS LIST & NOTES | |
| 40 | P068 | H-2-120425 | 1 | 0 | 04/06/93 | TU-130-001/002 SPIDER DRIVE COUPLING ASSY PARTS LIST & NOTES | |
| 40 | P068 | H-2-120425 | 2 | 0 | 04/06/93 | TU-130-001 TU-130-002 SPIDER DRIVE COUPLING DETAILS | |
| 40 | P068 | H-2-120425 | 3 | 0 | 04/06/93 | TU-130-001 TU-130-002 SPIDER DRIVE COUPLING DETAILS | |
| 40 | P068 | H-2-120426 | 1 | 0 | 04/06/93 | TU-130-001/002 DOLLY WHEEL ASSEMBLIES PARTS LIST & NOTES | |
| 40 | P068 | H-2-120426 | 2 | 0 | 04/06/93 | TU-130-001 TU-130-002 DOLLY WHEEL DETAILS | |
| 40 | P068 | H-2-120426 | 3 | 0 | 04/06/93 | TU-130-001 TU-130-002 DOLLY WHEEL DETAILS | |
| 40 | P068 | H-2-120427 | 1 | 0 | 04/06/93 | TU-130-001 TU-130-002 CANISTER CENTERING GUIDE ASSEMBLY | |
| 40 | P068 | H-2-120427 | 2 | 0 | 04/06/93 | TU-130-001 TU-130-002 CANISTER CENTERING GUIDE ASSEMBLY | |
| 40 | P068 | H-2-120427 | 3 | 0 | 04/06/93 | TU-130-001 TU-130-002 CANISTER CENTERING GUIDE DETAILS | |
| 40 | P068 | H-2-120427 | 4 | 0 | 04/06/93 | TU-130-001 TU-130-002 CANISTER CENTERING GUIDE DETAILS | |
| 40 | P068 | H-2-120428 | 1 | 0 | 04/06/93 | TU-130-001 TU-130-002 SCALE PLATFORM ASSEMBLY | |
| 40 | P068 | H-2-120428 | 2 | 0 | 04/06/93 | TU-130-001 TU-130-002 SCALE PLATFORM WELDMENT | |
| 40 | P068 | H-2-120428 | 3 | 0 | 04/06/93 | TU-130-001 TU-130-002 SCALE PLATFORM RAILS | |
| 40 | P068 | H-2-120428 | 4 | 0 | 04/06/93 | TU-130-001 TU-130-002 SCALE PLATFORM DETAILS | |
| 40 | P068 | H-2-120429 | 1 | 0 | 04/06/93 | TU-130-001 TU-130-002 SCALE ASSEMBLY | |

00/PIPING & INSTRUMENT DIAGRAMS, 05/CIVIL, 10/HVAC, 20/STRUCTURAL, 30/ARCHITECTURAL, 40/MECHANICAL, 50/PIPING, 51/FIRE PROTECTION,
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PAGE 12
DATE 04/07/93
CONTRACT 80845734

Time: 11:17 AM

HANFORD WASTE VITRIFICATION PLANT
COORDS LISTING OF DRAWINGS FOR PKG P06B

| DISC | PACKAGE | DRAWING NUMBER | SHT NO. | REV | SIGNATURE DATE | DRAWING TITLE | REMARKS |
|------|---------|-------------------|------------|-----|-------------------|--|---------|
| 40 | P06B | H-2-120429 | 2 | 0 | 04/06/93 | TU-130-001 TU-130-002 SCALE ASSEMBLY | |
| 40 | P06B | H-2-120429 | 3 | 0 | 04/06/93 | TU-130-001 TU-130-002 SCALE ASSEMBLY BASE WELDMENT | |
| 40 | P06B | H-2-120429 | 4 | 0 | 04/06/93 | TU-130-001 TU-130-002 SCALE ASSEMBLY BASE WELDMENT | |
| 40 | P06B | H-2-120429 | 5 | 0 | 04/06/93 | TU-130-001 TU-130-002 SCALE ASSEMBLY BASE WELDMENT | |
| 40 | P06B | H-2-120429 | 6 | 0 | 04/06/93 | TU-130-001 TU-130-002 SCALE ASSEMBLY BASE WELDMENT | |
| 40 | P06B | H-2-120429 | 7 | 0 | 04/06/93 | TU-130-001 TU-130-002 SCALE ASSEMBLY BASE WELDMENT | |
| 40 | P06B | H-2-120429 | 8 | 0 | 04/06/93 | TU-130-001 TU-130-002 SCALE ASSEMBLY DETAILS | |
| 40 | P06B | H-2-120429 | 9 | 0 | 04/06/93 | TU-130-001 TU-130-002 SCALE ASSEMBLY DETAILS | |
| 40 | P06B | H-2-120429 | 10 | 0 | 04/06/93 | TU-130-001 TU-130-002 SCALE ASSEMBLY DETAILS | |
| 40 | P06B | H-2-120429 | 11 | 0 | 04/06/93 | TU-130-001 TU-130-002 SCALE ASSEMBLY DETAILS | |
| 40 | P06B | H-2-120430 | 1 | 0 | 04/06/93 | TU-130-001 TU-130-002 LOAD CELL PARTS LIST & NOTES | |
| 40 | P06B | H-2-120430 | 2 | 0 | 04/06/93 | TU-130-001 TU-130-002 LOAD CELL BASE WELDMENT | |
| 40 | P06B | H-2-120430 | 3 | 0 | 04/06/93 | TU-130-001 TU-130-002 LOAD CELL DETAILS | |
| 40 | P06B | H-2-120450 | 1 | 0 | 04/06/93 | TU-130-001/002 ENCLOSURE ASSEMBLIES PARTS LIST & NOTES | |
| 40 | P06B | H-2-120450 | 2 | 0 | 04/06/93 | TU-130-001 TU-130-002 ENCLOSURE ASSEMBLIES | |
| 40 | P06B | H-2-120451 | 1 | 0 | 04/06/93 | TU-130-001/002 FLEXIBLE METAL HOSE ASSY PARTS LIST & NOTES | |
| 40 | P06B | H-2-120452 | 1 | 0 | 04/06/93 | TU-130-001 SUPPORT STRUCTURE ASSEMBLY | |
| 40 | P06B | H-2-120452 | 2 | 0 | 04/06/93 | TU-130-001 SUPPORT STRUCTURE DETAILS | |
| 40 | P06B | H-2-120452 | 3 | 0 | 04/06/93 | TU-130-001 SUPPORT STRUCTURE DETAILS | |
| 40 | P06B | H-2-120452 | 4 | 0 | 04/06/93 | TU-130-001 SUPPORT STRUCTURE DETAILS | |
| 40 | P06B | H-2-120460 | 1 | 0 | 04/06/93 | TU-130-001 PTT DIMENSIONAL RECORD DRAWING | |
| 40 | P06B | H-2-120460 | 2 | 0 | 04/06/93 | TU-130-001 PTT DIMENSIONAL RECORD DRAWING | |
| 40 | P06B | H-2-120460 | 3 | 0 | 04/06/93 | TU-130-001 PTT DIMENSIONAL RECORD DRAWING | |
| 40 | P06B | H-2-120550 | 1 | 0 | 04/06/93 | RA-130-009/010 TRACK & CATCH PAN ASSEMBLY PARTS LIST & NOTES | |

00/PIPING & INSTRUMENT DIAGRAMS, 05/CIVIL, 10/HVAC, 20/STRUCTURAL, 30/ARCHITECTURAL, 40/MECHANICAL, 50/PIPING, 51/FIRE PROTECTION,
60/ELECTRICAL, 70/CONTROL SYSTEMS, 90/MISCELLANEOUS

PAGE 13
DATE 04/07/93
CONTRACT 80845734

Time: 11:17 AM

HANFORD WASTE VITRIFICATION PLANT
COORDS LISTING OF DRAWINGS FOR PKG P068

| DISC | PACKAGE | DRAWING NUMBER | SHT NO. | REV | SIGNATURE DATE | DRAWING TITLE | REMARKS |
|------|---------|-------------------|------------|-----|-------------------|--|---------|
| 40 | P068 | H-2-120550 | 2 | 0 | 04/06/93 | RA-130-009/010 TRACK & CATCH PAN DETAILS | |
| 40 | P068 | H-2-120550 | 3 | 0 | 04/06/93 | RA-130-009/010 TRACK & CATCH PAN RAIL DETAILS | |
| 40 | P068 | H-2-120550 | 4 | 0 | 04/06/93 | RA-130-009/010 TRACK & CATCH PAN RAIL DETAILS | |
| 40 | P068 | H-2-120550 | 5 | 0 | 04/06/93 | RA-130-009/010 TRACK & CATCH PAN DETAILS | |
| 40 | P068 | H-2-120550 | 6 | 0 | 04/06/93 | RA-130-009/010 TRACK & CATCH PAN DETAILS | |
| 40 | P068 | H-2-120552 | 1 | 0 | 04/06/93 | RA-130-009/010 TRUNNION CAP ASSEMBLY PARTS LIST & NOTES | |
| 40 | P068 | H-2-120552 | 2 | 0 | 04/06/93 | RA-130-009/010 TRUNNION CAP DETAILS | |
| 40 | P068 | H-2-120553 | 1 | 0 | 04/06/93 | RA-130-010 SOUTH TRACK & CATCH PAN ASSY PARTS LIST & NOTES | |
| 40 | P068 | H-2-120553 | 2 | 0 | 04/06/93 | RA-130-010 SOUTH TRACK & CATCH PAN ASSEMBLY | |
| 40 | P068 | H-2-120553 | 3 | 0 | 04/06/93 | RA-130-010 SOUTH TRACK & CATCH PAN ASSEMBLY | |
| 40 | P068 | H-2-120553 | 4 | 0 | 04/06/93 | RA-130-010 SOUTH TRACK & CATCH PAN ASSEMBLY | |
| 40 | P068 | H-2-120553 | 5 | 0 | 04/06/93 | RA-130-010 SOUTH TRACK & CATCH PAN DETAILS | |
| 40 | P068 | H-2-120553 | 6 | 0 | 04/06/93 | RA-130-010 SOUTH TRACK & CATCH PAN DETAILS | |
| 40 | P068 | H-2-120553 | 7 | 0 | 04/06/93 | RA-130-010 SOUTH TRACK & CATCH PAN STRUCTURAL TUBING DETAILS | |
| 40 | P068 | H-2-120554 | 1 | 0 | 04/06/93 | RA-130-009 NORTH TRACK & CATCH PAN PARTS LIST & NOTES | |
| 40 | P068 | H-2-120554 | 2 | 0 | 04/06/93 | RA-130-009 NORTH TRACK & CATCH PAN ASSEMBLY | |
| 40 | P068 | H-2-120554 | 3 | 0 | 04/06/93 | RA-130-009 NORTH TRACK & CATCH PAN ASSEMBLY | |
| 40 | P068 | H-2-120554 | 4 | 0 | 04/06/93 | RA-130-009 NORTH TRACK & CATCH PAN ASSEMBLY | |
| 40 | P068 | H-2-120554 | 5 | 0 | 04/06/93 | RA-130-009 NORTH TRACK & CATCH PAN DETAILS | |
| 40 | P068 | H-2-120554 | 6 | 0 | 04/06/93 | RA-130-009 NORTH TRACK & CATCH PAN DETAILS | |
| 40 | P068 | H-2-120554 | 7 | 0 | 04/06/93 | RA-130-009 NORTH TRACK & CATCH PAN DETAILS | |
| 40 | P068 | H-2-120555 | 1 | 0 | 04/06/93 | RA-130-010 SOUTH TRACK & CATCH PAN DIMENSIONAL RECORD DWG | |
| 40 | P068 | H-2-120555 | 2 | 0 | 04/06/93 | RA-130-009 NORTH TRACK & CATCH PAN DIMENSIONAL RECORD DWG | |
| 40 | P068 | H-2-120562 | 1 | 0 | 04/06/93 | RA-130-007 POWER CABLE REELS PARTS LIST AND NOTES | |

00/PIPING & INSTRUMENT DIAGRAMS, 05/CIVIL, 10/HVAC, 20/STRUCTURAL, 30/ARCHITECTURAL, 40/MECHANICAL, 50/PIPING, 51/FIRE PROTECTION,
60/ELECTRICAL, 70/CONTROL SYSTEMS, 90/MISCELLANEOUS

PAGE 14
DATE 04/07/93
CONTRACT 80845734

Time: 11:17 AM

HANFORD WASTE VITRIFICATION PLANT
COORDS LISTING OF DRAWINGS FOR PKG P068

| DISC | PACKAGE | DRAWING NUMBER | SHT NO. | REV | SIGNATURE DATE | DRAWING TITLE | REMARKS |
|------|---------|-------------------|------------|-----|-------------------|--|---------|
| 40 | P068 | H-2-120562 | 2 | 0 | 04/06/93 | RA-130-007 POWER CABLE REEL ASSEMBLY | |
| 40 | P068 | H-2-120562 | 3 | 0 | 04/06/93 | RA-130-007 POWER CABLE REEL FRAME ASSEMBLY | |
| 40 | P068 | H-2-120562 | 4 | 0 | 04/06/93 | RA-130-007 POWER CABLE REEL CONNECTOR FOLDING BAIL WELDMENT | |
| 40 | P068 | H-2-120562 | 5 | 0 | 04/06/93 | RA-130-007 POWER CABLE REEL DETAILS REMOVABLE LEG ASSEMBLY | |
| 40 | P068 | H-2-120563 | 1 | 0 | 04/06/93 | RA-130-005 POWER CABLE REEL ASSY PARTS LIST AND NOTES | |
| 40 | P068 | H-2-120563 | 2 | 0 | 04/06/93 | RA-130-005 POWER CABLE REEL ASSEMBLY | |
| 40 | P068 | H-2-120563 | 3 | 0 | 04/06/93 | RA-130-005 POWER CABLE REEL FRAME ASSEMBLY | |
| 40 | P068 | H-2-120563 | 4 | 0 | 04/06/93 | RA-130-005 POWER CABLE REEL REMOVABLE LEG ASSEMBLY DETAILS | |
| 40 | P068 | H-2-120563 | 5 | 0 | 04/06/93 | RA-130-005 POWER CABLE REEL DETAILS | |
| 40 | P068 | H-2-120564 | 1 | 0 | 04/06/93 | RA-130-006 INSTRUMENTATION CABLE REEL ASSY PART LIST & NOTES | |
| 40 | P068 | H-2-120564 | 2 | 0 | 04/06/93 | RA-130-006 INSTRUMENTATION CABLE REEL ASSEMBLY | |
| 40 | P068 | H-2-120564 | 3 | 0 | 04/06/93 | RA-130-006 INSTRUMENTATION CABLE REEL FRAME ASSEMBLY | |
| 40 | P068 | H-2-120564 | 4 | 0 | 04/06/93 | RA-130-006 INSTRUMENTATION CABLE REEL FRAME WELDMENT | |
| 40 | P068 | H-2-120564 | 5 | 0 | 04/06/93 | RA-130-006 INSTRUMENTATION CABLE REEL CABLE GUIDE ASSEMBLY | |
| 40 | P068 | H-2-120564 | 6 | 0 | 04/06/93 | RA-130-006 INSTRUMENTATION CABLE REEL DETAILS | |
| 40 | P068 | H-2-120565 | 1 | 0 | 04/06/93 | RA-130-008 CABLE REELS SUPPORT FRAME PARTS LIST & NOTES | |
| 40 | P068 | H-2-120565 | 2 | 0 | 04/06/93 | RA-130-008 CABLE REELS SUPPORT FRAME WELDMENT | |
| 40 | P068 | H-2-120565 | 3 | 0 | 04/06/93 | RA-130-008 CABLE REELS SUPPORT LOWER FRAME WELDMENT | |
| 40 | P068 | H-2-120565 | 4 | 0 | 04/06/93 | RA-130-008 CABLE REELS SUPPORT FRAME DETAILS & WELDMENTS | |
| 40 | P068 | H-2-120565 | 5 | 0 | 04/06/93 | RA-130-008 CABLE REELS SUPPORT FRAME LIFTING LUG WELDMENTS | |
| 40 | P068 | H-2-120565 | 6 | 0 | 04/06/93 | RA-130-008 CABLE REELS SUPPORT FRAME LEFT LIFTING LUG DETS | |
| 40 | P068 | H-2-120565 | 7 | 0 | 04/06/93 | RA-130-008 CABLE REELS SUPPORT FRAME RIGHT LIFTING LUG DETS | |
| 40 | P068 | H-2-120565 | 8 | 0 | 04/06/93 | RA-130-008 CABLE REELS SUPPORT FRAME BRIDGE WELDMENT | |
| 40 | P068 | H-2-120568 | 1 | 0 | 04/06/93 | MECHANICAL CONNECTOR HOUSING ASSEMBLY | |

00/PIPING & INSTRUMENT DIAGRAMS, 05/CIVIL, 10/HVAC, 20/STRUCTURAL, 30/ARCHITECTURAL, 40/MECHANICAL, 50/PIPING, 51/FIRE PROTECTION,
60/ELECTRICAL, 70/CONTROL SYSTEMS, 90/MISCELLANEOUS

PAGE 15
DATE 04/07/93
CONTRACT 80845734

Time: 11:17 AM

HANFORD WASTE VITRIFICATION PLANT
COORDS LISTING OF DRAWINGS FOR PKG P068

| DISC | PACKAGE | DRAWING NUMBER | SHT NO. | REV | SIGNATURE DATE | DRAWING TITLE | REMARKS |
|------|---------|-------------------|------------|-----|-------------------|---|---------|
| 60 | P068 | H-2-122425 | 1 | 0 | 04/06/93 | ELECTRICAL GENERAL NOTES AND SYMBOLS | |
| 60 | P068 | H-2-122426 | 1 | 0 | 04/06/93 | ELECTRICAL POUR & DRAIN TURNTABLES BLOCK DIAGRAM | |
| 60 | P068 | H-2-122427 | 1 | 0 | 04/06/93 | ELECTRICAL CONNECTION DIAGRAM TU-130-002 | |
| 60 | P068 | H-2-122427 | 2 | 0 | 04/06/93 | ELECTRICAL CONNECTION DIAGRAM TU-130-002 | |
| 60 | P068 | H-2-122427 | 3 | 0 | 04/06/93 | ELECTRICAL CONNECTION DIAGRAM TU-130-001 | |
| 60 | P068 | H-2-122427 | 4 | 0 | 04/06/93 | ELECTRICAL CONNECTION DIAGRAM TU-130-001 | |
| 70 | P068 | H-2-121701 | 1 | 0 | 04/06/93 | LP-130-001, 006 INSTRUMENT PANEL LAYOUT | |
| 70 | P068 | H-2-121702 | 1 | 0 | 04/06/93 | LP-130-002, 007 INSTRUMENT PANEL LAYOUT | |
| 70 | P068 | H-2-121796 | 1 | 0 | 04/06/93 | INSTRUMENT CONTROL LOGIC DIAGRAM LP-130-001,002,006 & 007 | |
| 70 | P068 | H-2-121796 | 2 | 0 | 04/06/93 | INSTRUMENT CONTROL LOGIC DIAGRAM LP-130-001,002,006 & 007 | |
| 70 | P068 | H-2-121796 | 3 | 0 | 04/06/93 | INSTRUMENT CONTROL LOGIC DIAGRAM LP-130-001,002,006 & 007 | |
| 70 | P068 | H-2-121796 | 4 | 0 | 04/06/93 | INSTRUMENT CONTROL LOGIC DIAGRAM LP-130-001,002,006 & 007 | |
| 70 | P068 | H-2-121796 | 5 | 0 | 04/06/93 | INSTRUMENT CONTROL LOGIC DIAGRAM LP-130-001,002,006 & 007 | |
| 70 | P068 | H-2-121796 | 6 | 0 | 04/06/93 | INSTRUMENT CONTROL LOGIC DIAGRAM LP-130-001,002,006 & 007 | |
| 70 | P068 | H-2-121796 | 7 | 0 | 04/06/93 | INSTRUMENT CONTROL LOGIC DIAGRAM LP-130-001,002,006 & 007 | |

TOTAL: 351

Records printed: 351

00/PIPING & INSTRUMENT DIAGRAMS, 05/CIVIL, 10/HVAC, 20/STRUCTURAL, 30/ARCHITECTURAL, 40/MECHANICAL, 50/PIPING, 51/FIRE PROTECTION,
60/ELECTRICAL, 70/CONTROL SYSTEMS, 90/MISCELLANEOUS

SPECIFICATIONS

9513336 0782
MELTER POUR AND DRAIN TURNTABLE

B-595-P-P06B

HANFORD WASTE VITRIFICATION PLANT

**U.S. DEPARTMENT OF ENERGY
RICHLAND OPERATIONS OFFICE**



**FLUOR DANIEL
ADVANCED TECHNOLOGY DIVISION
CONTRACT 8457**

**DOE CONTRACT NO.
DE-AC06-86RL10838**

9513336.0783

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

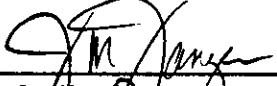
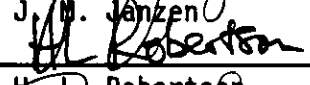

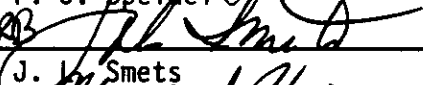
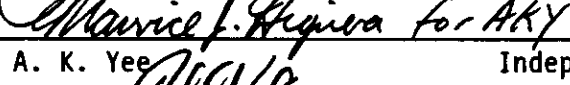
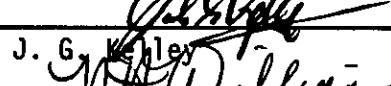
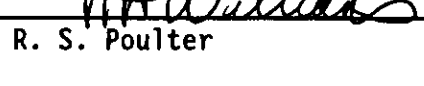
MELTER POUR AND DRAIN TURNTABLE

SPECIFICATION B-595-P-P06B

APPROVED FOR CONSTRUCTION

REVISION 0
ISSUE DATE 4-6-93

APPROVED BY:

| | | |
|--|-----------------------------|------------------------|
|  J. M. Janzen | Project Package Engineer | <u>3/31/93</u> Date |
|  H. L. Robertson | Area Project Manager | <u>3/31/93</u> Date |
|  P. J. Speidel | Engineering Project Manager | <u>3/31/93</u> Date |
|  J. L. Smets | Systems Manager | <u>4/1/93</u> Date |
|  Maurice F. Riquiera for AKY | Independent Safety Manager | <u>4/1/93</u> Date |
|  J. G. Kewley | Quality Assurance Manager | <u>4/1/93</u> Date |
|  R. S. Poulter | Project Director | <u>4/1/93</u> Date |

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U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

**MELTER POUR AND DRAIN TURNTABLE
B-595-P-P06B**

**TABLE OF CONTENTS
TECHNICAL SPECIFICATIONS**

DIVISION 1 - GENERAL REQUIREMENTS

| Section | Title | Rev. No. |
|----------------|--------------------------------|-----------------|
| 01730 | Operation and Maintenance Data | 0 |

DIVISION 5 - CONCRETE

| Section | Title | |
|----------------|--------------------|---|
| 05060 | Welding Structural | 0 |

DIVISION 13 - SPECIAL CONSTRUCTION

| Section | Title | |
|----------------|--|---|
| 13252 | Precautions for Fabrication, Handling and Storage of Stainless Steel and Nickel Alloys | 0 |

DIVISION 14 - CONVEYING SYSTEMS

| Section | Title | |
|----------------|------------------------------|---|
| 14601 | Pour Turntable | 0 |
| 14602 | Drain Turntable | 0 |
| 14603 | Cable Reel Assembly | 0 |
| 14604 | Track and Catch Pan Assembly | 0 |

DIVISION 15 - MECHANICAL

| Section | Title | |
|----------------|---|---|
| 15196 | Identification and Tagging Methods for Mechanical Equipment | 0 |

DIVISION 16 - ELECTRICAL

| Section | Title | |
|----------------|--|---|
| 16120 | Soldering - Electrical | 0 |
| 16151 | Motors-Induction for Radioactive Service | 0 |
| 16610 | Electrical Requirements for Packaged Equipment | 0 |

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

DIVISION 17 - INSTRUMENTATION AND CONTROLS

| Section | Title | |
|---------|---|---|
| 17857 | Local Control Panels for Pour and Drain Turntables | 0 |
| 17886 | Instruments Furnished with Mechanical Equipment | |
| | Load Cell Signal Conditioner Pour and Drain Turntables | 0 |
| 17908 | Instruments Furnished with Mechanical Equipment Pour and Drain Turntables | 0 |

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U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

SECTION 01730
OPERATION AND MAINTENANCE DATA
B-595-P-P06B-01730

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REVISION 0
ISSUE DATE 4-16-93

| | | | | |
|---------------|-----|-----|----|----------|
| WAPA | YES | ___ | NO | <u>X</u> |
| QUALITY LEVEL | I | ___ | II | <u>X</u> |
| SAFETY CLASS | 1 | ___ | 2 | ___ |
| | | | 3 | <u>X</u> |
| | | | 4 | ___ |

ORIGINATOR(S):

CHECKER(S):

James D. Louma, Jr. for 29 Mar 93 D. A. Buzzelli 3-29-93
J. Morey, Spec. Writer (Date) D. A. Buzzelli, Lead Disc. Checker (Date)

APPROVED BY:

C. J. DiVona 3/29/93
C. J. DiVona Lead Discipline Engineer (Date)

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

SECTION 01730
OPERATION AND MAINTENANCE DATA
B-595-P-P06B-01730

TABLE OF CONTENTS

| <u>PART</u> | <u>PAGE</u> |
|---|-------------|
| PART 1 GENERAL | 1 |
| 1.1 SUBMISSION OF OPERATION AND MAINTENANCE DATA | 1 |
| 1.2 TYPES OF INFORMATION REQUIRED IN O&M DATA PACKAGES | 1 |
| 1.3 SCHEDULE OF OPERATION AND MAINTENANCE DATA PACKAGES | 5 |
| PART 2 PRODUCTS | 5 |
| PART 3 EXECUTION | 6 |

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

SECTION 01730 OPERATION AND MAINTENANCE DATA

PART 1 GENERAL

1.1 SUBMISSION OF OPERATION AND MAINTENANCE DATA

Submit operation and maintenance (O&M) data which is specifically applicable to this contract and a complete and concise depiction of the provided equipment or product. Data containing extraneous information to be sorted through to find applicable instructions will not be accepted. Present information in sufficient detail to clearly explain user O&M requirements at the system, equipment, component, and subassembly level. Include an index preceding each submittal. Submit the following in accordance with the Vendor Drawing and Data Requirements section of the Order/Subcontract.

1.1.1 Package Content

For each product, system, or piece of equipment requiring submission of O&M data, submit the package required in the individual technical section. Package content shall be as required in the Paragraph 1.3, "Schedule of Operations and Maintenance Data Packages."

1.2 TYPES OF INFORMATION REQUIRED IN O&M DATA PACKAGES

1.2.1 Operating Instructions

Include specific instructions, procedures, and illustrations for the following phases of operation:

1.2.1.1 Safety Precautions

List personnel hazards and equipment or product safety precautions for all operating conditions.

1.2.1.2 Operator Prestart

Include requirements to set up and prepare each system for use.

1.2.1.3 Start-Up, Shutdown, and Post-Shutdown Procedures

Include a control sequence for each of these operations.

1.2.1.4 Normal Operations

Include control diagrams with data to explain operation and control of systems and specific equipment.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

1.2.1.5 Emergency Operations

Include emergency procedures for equipment malfunctions to permit a short period of continued operation or to shut down the equipment to prevent further damage to systems and equipment. Include emergency shutdown instructions for fire, explosion, spills, or other foreseeable contingencies. Provide guidance on emergency operations of all utility systems including valve locations and portions of systems controlled.

1.2.1.6 Operator Service Requirements

Include instructions for services to be performed by the operator such as lubrication, adjustments, and inspection.

1.2.1.7 Environmental Conditions

Include a list of environmental conditions (temperature, humidity and other relevant data) which are best suited for each product or piece of equipment and describe conditions under which equipment should not be allowed to run.

1.2.2 Preventive Maintenance

Include the following information for preventive and scheduled maintenance to minimize corrective maintenance and repair.

1.2.2.1 Lubrication Data

Include lubrication data, other than instructions for lubrication in accordance with Paragraph 1.2.1.6, Operator Service Requirements.

1.2.2.2 Preventive Maintenance Plan and Schedule

Include manufacturer's schedule for routine preventive maintenance, inspections, tests and adjustments required to ensure proper and economical operation and to minimize corrective maintenance and repair. Provide manufacturer's projection of preventive maintenance man-hours on a daily, weekly, monthly, and annual basis.

1.2.3 Corrective Maintenance

Include manufacturer's recommendations on procedures and instructions for correcting problems and making repairs.

1.2.3.1 Troubleshooting Guides and Diagnostic Techniques

Include step-by-step procedures to promptly isolate the cause of typical malfunctions. Describe clearly why the checkout is

performed and what conditions are to be sought. Identify tests or inspections and test equipment required to determine whether parts and equipment may be reused or require replacement.

1.2.3.2 Wiring Diagrams and Control Diagrams

Wiring diagrams and control diagrams shall be point-to-point drawings of wiring and control circuits including factory-field interfaces. Provide a complete and accurate depiction of the actual job specific wiring and control work. On diagrams number electrical and electronic wiring and pneumatic control tubing and the terminals for each type, identically to actual installation numbering.

1.2.3.3 Maintenance and Repair Procedures

Include instructions and list tools required to restore product or equipment to proper condition or operating standards.

1.2.3.4 Removal and Replacement Instructions

Include step-by-step procedures and list required tools and supplies for removal, replacement, disassembly, and assembly of components, assemblies, subassemblies, accessories, and attachments. Provide tolerances, dimensions, settings and adjustments required. Instructions shall include a combination of text and illustrations.

1.2.3.5 Spare Parts and Supply Lists

Include lists of spare parts and supplies required for maintenance and repair to ensure continued service or operation without unreasonable delays.

1.2.3.6 Corrective Maintenance Man-Hours

Include manufacturer's projection of corrective maintenance man-hours. Corrective maintenance that requires participation of the equipment manufacturer shall be identified and tabulated separately.

1.2.4 Appendices

Provide information specified in the preceding paragraphs pertinent to the maintenance or operation of the product or equipment. Include the following:

1.2.4.1 Parts Identification

Provide identification and coverage for all parts of each component, assembly, subassembly, and accessory of the end items

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

subject to replacement. Include special hardware requirements, such as requirement to use high-strength bolts and nuts. Identify parts by make, model, serial number, and source of supply to allow reordering without further identification. Provide clear and legible illustrations, drawings, and exploded views to enable easy identification of the items. When illustrations omit the part numbers and description, both the illustrations and separate listing shall show the index, reference, or key number which will cross-reference the illustrated part to the listed part. Parts shown in the listings shall be grouped by components, assemblies, and subassemblies.

- A. Manufacturer's Standard Commercial Practice: The parts data may cover more than one model or series of equipment, components, assemblies, subassemblies, attachments, or accessories, such as a master parts catalog, in accordance with the manufacturer's standard commercial practice.
- B. Other than Manufacturer's Standard Commercial Practice (MSCP): End item manufacturer may add a cross-reference to implement components' assemblies and parts requirements when implementation in manual form varies significantly from the style, format, and method of manufacturer's standard commercial practice. Use the format in the following example:

| End Item Manufacturer's Alphanumeric Sequence | Actual Manufacturer's Name and MSCP | Actual Manufacturer Part No. |
|---|---|------------------------------------|
| 100001 | John Doe & Co. 00000 | 2000002 |

1.2.4.2 Warranty Information

List and explain the various warranties and include the servicing and technical precautions prescribed by the manufacturers or contract documents to keep warranties in force.

1.2.4.3 Personnel Training Requirements

Provide information available from the manufacturers to use in training designated personnel to operate and maintain the equipment and systems properly.

1.2.4.4 Testing Equipment and Special Tool Information

Include information on test equipment required to perform specified tests and on special tools needed for the operation, maintenance, and repair of components.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

1.3 SCHEDULE OF OPERATION AND MAINTENANCE DATA PACKAGES

Furnish the O&M data packages specified in individual technical sections. The required information for each O&M data package is as follows:

1.3.1 Data Package

- A. Operating instructions
- B. Safety precautions
- C. Operation prestart
- D. Start-up, shutdown, and post shutdown
- E. Normal operations
- F. Emergency operations
- G. Operator Service Requirements
- H. Environmental conditions
- I. Preventative maintenance
- J. Lubrication data
- K. Preventive maintenance plan and schedule
- L. Corrective maintenance
- M. Troubleshooting guides and diagnostic techniques
- N. Wiring diagrams and control diagrams
- O. Maintenance and repair procedures and man-hour requirements
- P. Removal and replacement instructions
- Q. Spare parts and supply list
- R. Parts identification
- S. Warranty information
- T. Personnel training requirements
- U. Testing equipment and special tool information

PART 2 PRODUCTS

(Not Used)

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U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

PART 3 EXECUTION

(Not Used)

END OF SECTION

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U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

SECTION 05060
WELDING STRUCTURAL
B-595-P-P06B-05060

APPROVED FOR CONSTRUCTION

REVISION 0
ISSUE DATE 4-6-93

| | | | | |
|---------------|-----|-----------|----|-----------|
| WAPA | YES | <u> </u> | NO | <u>X</u> |
| QUALITY LEVEL | I | <u> </u> | II | <u>X</u> |
| SAFETY CLASS | 1 | <u> </u> | 2 | <u> </u> |
| | | | 3 | <u>X</u> |
| | | | 4 | <u> </u> |

ORIGINATOR:

CHECKER:

A. Estrada 3/29/93
A. Estrada, Welding Engineer Date

D. A. Buzzelli 3-29-93
D. A. Buzzelli, Lead Disc. Checker Date

APPROVED BY:

C. J. Dixon
C. J. Dixon Lead Discipline Engineer

3-29-93
Date

SECTION 05060
WELDING STRUCTURAL
B-595-P-P06B-05060

TABLE OF CONTENTS

| <u>PART</u> | | <u>PAGE</u> |
|---------------|--|-------------|
| PART 1 | GENERAL | 1 |
| 1.1 | SUMMARY | 1 |
| 1.2 | REFERENCES | 1 |
| 1.3 | RELATED REQUIREMENTS | 1 |
| 1.4 | DEFINITIONS | 2 |
| 1.5 | SYSTEMS DESCRIPTION | 2 |
| 1.6 | SUBMITTALS | 2 |
| 1.7 | CLASSIFICATION OF SYSTEMS AND COMPONENTS | 2 |
| 1.8 | PROJECT OR SITE ENVIRONMENTAL CONDITIONS | 3 |
| PART 2 | PRODUCTS | 3 |
| 2.1 | MATERIALS AND EQUIPMENT | 3 |
| 2.2 | FABRICATION AND MANUFACTURE | 4 |
| PART 3 | EXECUTION | 5 |
| 3.1 | PREPARATION | 5 |
| 3.2 | INSTALLATION, APPLICATION AND ERECTION | 6 |
| 3.3 | FIELD QUALITY CONTROL | 8 |
| 3.4 | ADJUSTMENTS | 8 |
| 3.5 | CLEANING | 8 |
| 3.6 | PROTECTION | 8 |
| 3.7 | DEMONSTRATION | 8 |
| 3.8 | SCHEDULES | 8 |

ATTACHMENTS

| <u>ATTACHMENT</u> | <u>TITLE</u> |
|-------------------|---------------------------|
| A | WELD MAP |
| B | WELDING PROCEDURE SUMMARY |

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

**SECTION 05060
WELDING STRUCTURAL**

PART 1 GENERAL

1.1 SUMMARY

This specification section defines the welding, examination and testing requirements for shop fabrication of pour and drain turntables. The materials of construction shall be stainless steel structural shapes, tubular components and plates.

1.2 REFERENCES

The publications listed below form a part of this specification section to the extent referenced. The publications are referred to in the text by the basic designation only.

**AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)
Boiler and Pressure Vessel Code**

ASME Section V 1989 Nondestructive Examination

ASME Section IX 1989 Welding and Brazing Qualifications

AMERICAN SOCIETY OF NONDESTRUCTIVE TESTING (ASNT)

ASNT SNT-TC-1A 1988 Recommended Practice - Personnel
Qualifications and Certification in
Nondestructive Testing

AMERICAN WELDING SOCIETY (AWS)

AWS D1.1 1990 Structural Welding Code

AWS D9.1 1990 Sheet Metal Welding Code

1.3 RELATED REQUIREMENTS

Specification Section 13252 Precautions for the Fabrication,
Handling and Storage of Stainless
Steel and Nickel Alloys

Specification Section 14601 Pour Turntable

Specification Section 14602 Drain Turntable

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

1.4 DEFINITIONS

CMTR - Certified Material Test Report
NDE - Nondestructive Examination
PT - Liquid Penetrant Examination

1.5 SYSTEMS DESCRIPTION

(Not Used)

1.6 SUBMITTALS

Submit the following in accordance with the Vendor Drawing and Data Requirements section of the Order/Subcontract.

- 1.6.1 Welding Procedure Specifications and Procedure Qualification Records shall be submitted for Buyer approval. This requirement shall also pertain to purchased items contracted by Seller. They shall be in accordance both with the requirements of AWS D1.1 or ASME Section IX and this specification section. Seller shall review the contractor's procedures to verify their conformance to the requirements of this specification section.
- 1.6.2 Welder Performance Qualifications shall be submitted for information. This requirement shall also pertain to purchased items contracted by Seller. They shall be in accordance both with AWS D1.1 or ASME Section IX and this specification section.
- 1.6.3 Certified Material Test Reports (CMTRs) for filler metal shall be submitted for Buyer review.
- 1.6.4 Weld repair procedures shall be submitted for Buyer approval.
- 1.6.5 Final weld examination and inspection reports shall be submitted for Buyer review. These shall include visual nondestructive examination (NDE) reports.
- 1.6.6 Contract Drawing, weld map and weld summary sheet shall be submitted for Buyer approval. They shall specifically identify each weld joint and procedure to be used. A sample form of the weld map and weld procedure summary sheet can be found in Attachments A and B.

1.7 CLASSIFICATION OF SYSTEMS AND COMPONENTS

(Not Used)

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

1.8 PROJECT OR SITE ENVIRONMENTAL CONDITIONS

(Not Used)

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

- 2.1.1 Weld filler materials shall be in accordance with AWS D9.1.
- 2.1.2 Weld filler materials shall be used so that the principal elements in the deposited weld metal shall be of the same nominal composition as the base metal (Example: for stainless steel 304L, use AWS classification E/ER 308L filler material).
- 2.1.3 Solid wires for automatic welding processes shall contain the principal alloying elements required for the deposited weld metal. Welds deposited by the submerged arc process shall not derive any principal alloying elements from the flux. Alloy flux is not permitted.
- 2.1.4 Fluxes that the flux manufacturer recommends for single-pass shall not be used for multiple-pass welds.
- 2.1.5 Submerged arc welding shall be performed using the same name brand flux and the same name brand of AWS classification wire as used for the procedure qualifications.
- 2.1.6 Storage and handling of electrodes, fluxes and other welding material after shipping containers are opened shall be in accordance with Seller's filler materials control procedure. This procedure shall follow the guidelines of the appropriate AWS specification and the filler metal manufacturer's recommendations.
- 2.1.7 Tack welds shall be made with the equivalent type of filler wire that is used for the root pass.
- 2.1.8 Temporary backup rings or strips, when required on the Contract Drawings, shall be of the same nominal composition as the base material. They shall be in accordance with Paragraph 3.1.3.
- 2.1.9 For dissimilar joints in base material consisting of carbon steel on one side and austenitic stainless steel on the other, the filler metal shall be AWS classification E/ER 309L.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

2.2 FABRICATION AND MANUFACTURE

2.2.1 General Requirements

2.2.1.1 Fabrication to this specification section shall be in accordance with the requirements of AWS D1.1, Section 8. Conformance to this specification section and authorization of Welding Procedure Specifications and Procedure Qualification Records shall in no way relieve Seller of the responsibility to provide welds which are sound and suited to the services for which they are intended.

2.2.1.2 Cleanliness shall be maintained during welding. All stubs, rods, flux, slag and other foreign material shall be removed from the weld area.

2.2.1.3 All arc strikes, weld spatter, burrs, etc. shall be ground to a smooth contour.

2.2.1.4 Fabrication aids, temporary supporting lugs, etc. that are removed by gouging or cutting shall not be cut closer than 1/8 inch from surface. The remaining material shall then be ground flush with the base metal. The ground area shall be inspected for possible cracks or porosity by liquid penetrant examination. Liquid penetrant examination shall be in accordance with Paragraph 3.2.6.3.

2.2.1.5 Each welder shall be assigned an identification number, letter or symbol which shall be used to identify his/her work.

2.2.1.6 Tack welds in open butt joints shall be feathered into surrounding material.

2.2.2 Welding Qualifications

2.2.2.1 Welding procedures, welders, welding operators and tackers shall be qualified in accordance either with AWS D1.1 or ASME Section IX.

2.2.2.2 At the request of the Buyer, any welder shall be retested and recertified when the work of said welder creates a reasonable doubt as to the quality of his/her workmanship.

2.2.2.3 The format of welding procedure specifications and welding procedure qualification records shall be in accordance with AWS D1.1, Appendix E or ASME Section IX, Appendix A or equivalent.

2.2.3 Acceptable Welding Processes

2.2.3.1 Welding may be achieved by any one or combination of the following welding processes:

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

| <u>Welding Process</u> | <u>AWS Letter Designation</u> |
|--|-------------------------------|
| Shielded Metal Arc Welding | SMAW |
| Flux-Cored Arc Welding (with Shielding Gas) | FCAW |
| Manual and Automatic Gas Tungsten Arc Welding | GTAW |
| Automatic Submerged Arc Welding | SAW |

- 2.2.3.2 Other welding processes such as Gas Metal Arc or Manual Submerged Arc require specific written authorization by Buyer. Submit all pertinent data and intended application of said process for evaluation.

PART 3 EXECUTION

3.1 PREPARATION

- 3.1.1 Weld joint preparation shall be made by machining, grinding or thermal cutting. When thermal cutting is performed, the joint surfaces shall be ground to bright metal prior to welding. Oxy-fuel cutting shall not be used for joint preparation of stainless steel.
- 3.1.2 For structural tubular welds, longitudinal weld seams shall be parallel to the longitudinal axis and shall be complete (100 percent) penetration butt welds. Longitudinal seams of adjoining tubular members shall not be in line but shall be offset from other longitudinal seams by at least five (5) times the wall thickness of the tubular component.
- 3.1.3 Permanent backup strips or backing rings are not permitted without specific written authorization from the Buyer. If temporary backup strips are used and then removed, the weld area shall be dressed and examined for cracks and other defects. Examination of area shall be performed visually and by the liquid penetrant method. Examination shall be in accordance with Paragraph 3.2.6.
- 3.1.4 The parts to be joined shall be in accordance with the assembly requirements of AWS D1.1, Section 3.3.
- 3.1.5 To minimize the contamination of austenitic stainless steel, Seller shall follow the requirements of Specification Section 13252 prior to and after welding.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

- 3.1.6 All surfaces to be welded shall be free of paint, oil, dirt, scale, oxides and other foreign materials detrimental to weld soundness.
- 3.1.7 Joint edges and adjacent surfaces to be welded shall be wire brushed. They shall be cleaned with an ethyl alcohol or acetone dampened lint-free cloth before welding begins.
- 3.1.8 Wire brushes shall be made of 300 Series austenitic stainless steel. Mechanical cleaning tools such as grinding wheels, files, deburring tools and wire brushes shall be clearly marked. Marking shall identify tools to be used on stainless steel only.
- 3.1.9 Grinding shall be done in such a method that overheating of stainless steel base and weld metal is minimized. Heat tint is an indication of overheating. Abrasive disks and abrasive flapwheelers are preferred over grinding disk or continuous-belt grinders.
- 3.1.10 Welds made by inert gas shielded methods shall be fully back-purged except where precluded by the physical arrangement. Nozzle gas shall be used to prevent oxidation on either side of the weld.

3.2 INSTALLATION, APPLICATION AND ERECTION

- 3.2.1 All welds shall be made in accordance both with Contract Drawings and Seller's fabrication drawings.
- 3.2.2 Flux, weld spatter and any slag shall be removed from each weld bead prior to depositing each succeeding pass.
- 3.2.3 Welding starts and stops in welds shall be held to a minimum. Each such stop shall be properly conditioned before continuing the weld. The use of starting and stopping plates is recommended where possible.
- 3.2.4 Intermittent welds are not permitted. Crevices shall, to the extent possible, be seal-welded.
- 3.2.5 Preheat and Interpass Temperature Control
 - 3.2.5.1 The minimum preheat for austenitic stainless steel shall be 50°F. Interpass temperature shall not exceed 350°F.
- 3.2.6 Inspection and Nondestructive Examination

Specific nondestructive examination shall be performed in accordance with either Specification Section 14601 or 14602 and Seller's fabrication drawings. NDE methods, acceptance criteria and additional general requirements shall be in accordance with the following subparagraphs. All NDE, except visual examination,

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

shall be performed by personnel certified in accordance with ASNT SNT-TC-1A.

3.2.6.1 Inspection

- A. The welding inspector shall be qualified and certified in accordance with AWS D1.1, Paragraph 6.1.3.
- B. All weld inspection reports shall be submitted in accordance with Paragraph 1.6.

3.2.6.2 Visual Examination

- A. Visual examination shall be performed in accordance with AWS D1.1, Section 6.
- B. Seller shall visually inspect all completed welds in accordance with AWS D1.1, Section 8.15.1. Weld profiles shall be in accordance with Figure 3.4 of AWS D1.1. Defective welds shall be repaired in accordance with Seller's approved weld repair procedures.
- C. In addition to visual examination of the completed weld, visual examination is required for all ground and blended welds.
- D. For butt joints, the weld metal on the front surface shall in no place be lower than the adjacent base metal surfaces.
- E. Groove welds shall have a uniform transition from the joined material into the weld deposit. They shall be free of undercut and unfused overlap of the weld deposit.
- F. Fillet weld surfaces shall have a uniform transition from the base material into the weld deposit. They shall be free of undercut and unfused overlap.

3.2.6.3 Liquid Penetrant Examination

- A. Liquid penetrant examination (PT) shall be in accordance with AWS D1.1, Section 6.7.7. Acceptance criteria shall be in accordance with AWS D1.1, Section 8.15.5.
- B. Liquid penetrant examination shall be performed after welds have been ground and visually examined. Examination shall include a band of base metal no less than 1 inch wide on each side of the weld.
- C. Penetrant material shall be in accordance with ASME Section V, Article 6, T-625 for sulfur and halogen content.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

3.3 FIELD QUALITY CONTROL

(Not Used)

3.4 ADJUSTMENTS

3.4.1 Weld Repairs

3.4.1.1 All weld repairs shall be performed in accordance with the approved weld repair procedures.

3.4.1.2 Unacceptable indications shall be completely removed by chipping, gouging, grinding or other authorized methods (for the type of material being repaired) to clean, bright metal. The excavated areas shall then be examined by the liquid penetrant method to assure complete removal of defects. Liquid penetrant examination shall be in accordance with Paragraph 3.2.6.

3.4.1.3 The repaired areas shall be reexamined using the same inspection procedures by which the defect was originally detected, along with all other inspection called out for the particular weld.

3.4.1.4 Two repair attempts will be allowed on any one defective area. No further repair attempts shall be carried out without the authorization of Buyer.

3.5 CLEANING

(Not Used)

3.6 PROTECTION

(Not Used)

3.7 DEMONSTRATION

(Not Used)

3.8 SCHEDULES

(Not Used)

END OF SECTION

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U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

**ATTACHMENT A
WELD MAP**

Buyer P.O. No., Item No.

Buyer Weld Specification No.

1. Draw a single line sketch of the structural parts.
2. Identify each qualified welding procedure.

SKETCH

| |
|---|
| <p>Seller Address Buyer PO#</p> |
|---|

This Form Completed By _____

Buyer Welding Eng. Review Block

Telephone No. _____

Revisions _____

Date _____

| |
|--|
| |
|--|

**ATTACHMENT B
 WELDING PROCEDURE SUMMARY DATA**

| <u>Space No.</u> | <u>Action to be Taken</u> |
|------------------|---|
| 1 | Enter the Buyer's Purchase Order number. A separate summary must be completed for each P.O. and suborder. |
| 2 | Enter the Buyer's item number(s). The summary sheet must reflect all items of similar construction that will have common welding procedures. Items of markedly different materials or methods of manufacture should be entered on separate WPS's. |
| 3 | Enter Seller's name. |
| 4 | Enter Seller's shop location where work will be performed. |
| 5 | Enter the date summary is compiled. |
| 6 | Enter Buyer serial number and revision (Buyer's use only). |
| 7 | Enter Welding Procedure Specification (WPS) number. |
| 8 | Enter Procedure Qualification Record (PQR) number(s) supporting the WPS. |
| 9 | Enter the welding process(es) used in performing (PQR). |
| 10 | Enter type of joint as referenced in Legend. Where (D) is used, state type of joint in space 17. |
| 11 | Enter ASME-ASTM materials to be used in fabrication. |
| 12 | Enter base metal thickness range qualified by PQR. |
| 13 | Enter post weld heat treatment information in appropriate box. |
| 14 | Enter other pertinent information in this space. Such as impacts, etc. |
| 15 | Enter current review status of weld procedure (Buyer's use only). |
| 16 | Enter date of current review status of weld procedure (Buyer's use only). |
| 17 | Enter any special design or process information regarding the item of construction in this box. |

95 336 080 9

Rev. 0

Welding Structural

SELLER: 3 SHOP LOCATION: 4 DATE: 5
P.O. NO.: 1 ITEM(S): 2

0535

Rev. 0

Welding Structural

SELLER: _____ SHOP LOCATION: _____ DATE: _____
P.O. NO.: _____ ITEM(S): _____

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U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

SECTION 13252
PRECAUTIONS FOR FABRICATION, HANDLING AND
STORAGE OF STAINLESS STEEL AND NICKEL ALLOYS
B-595-P-P06B-13252

APPROVED FOR CONSTRUCTION

REVISION 0
ISSUE DATE 4-6-93

WAPA YES NO X
QUALITY LEVEL I II X
SAFETY CLASS 1 2 3 X 4

ORIGINATOR(S):

CHECKER(S):

A. Estrada 3/29/93 D. A. Buzzelli 3-29-93
A. Estrada, Welding Engineer (Date) D. A. Buzzelli, Lead Disc. Checker (Date)

APPROVED BY:

C. J. Divona 3/29/93
C. J. Divona Lead Discipline Engineer (Date)

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

**SECTION 13252
PRECAUTIONS FOR FABRICATION, HANDLING AND
STORAGE OF STAINLESS STEEL AND NICKEL ALLOYS
B-595-P-P06B-13252**

TABLE OF CONTENTS

| <u>PART</u> | <u>PAGE</u> |
|--|-------------|
| PART 1 GENERAL | 1 |
| 1.1 SUMMARY | 1 |
| 1.2 REFERENCES | 1 |
| 1.3 RELATED REQUIREMENTS | 1 |
| 1.4 DEFINITIONS | 1 |
| 1.5 SYSTEM DESCRIPTION | 2 |
| 1.6 SUBMITTALS | 2 |
| 1.7 CLASSIFICATION OF SYSTEMS AND COMPONENTS | 2 |
| 1.8 PROJECT OR SITE ENVIRONMENTAL CONDITIONS | 2 |
| PART 2 PRODUCTS | 2 |
| 2.1 MATERIALS AND EQUIPMENT | 2 |
| 2.2 FABRICATION AND MANUFACTURE | 5 |
| PART 3 EXECUTION | 6 |
| 3.1 PREPARATION | 6 |
| 3.2 INSTALLATION, APPLICATION AND ERECTION | 6 |
| 3.3 FIELD QUALITY CONTROL | 6 |
| 3.4 ADJUSTMENTS | 6 |
| 3.5 CLEANING | 6 |
| 3.6 PROTECTION | 6 |
| 3.7 DEMONSTRATION | 6 |
| 3.8 SCHEDULES | 6 |

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

**SECTION 13252
PRECAUTIONS FOR FABRICATION, HANDLING AND
STORAGE OF STAINLESS STEEL AND NICKEL ALLOYS**

PART 1 GENERAL

1.1 SUMMARY

This specification section covers the technical requirements for handling, fabrication, shipment and storage techniques to minimize the risk of contamination of stainless steel and nickel alloys. Contaminating compounds are those which contain free iron, sulfur, chlorides and low melting point metals.

1.2 REFERENCES

The publications listed below form a part of this specification section to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

| | |
|------------|--|
| ASTM A380 | 1978 Standard Practice for Cleaning and Descaling Stainless Steel Parts, Equipment and Systems |
| ASTM D129 | 1991 Standard Test Method for Sulfur in Petroleum Products (General Bomb Method) |
| ASTM D808 | 1991 Standard Test Method of Chlorine in New and Used Products (Bomb Method) |
| ASTM D1552 | 1990 Standard Test Method for Sulfur in Petroleum Products (High Temperature Method) |

**AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)
Boiler and Pressure Vessel Code**

| | |
|----------------|---------------------------------|
| ASME Section V | 1989 Nondestructive Examination |
|----------------|---------------------------------|

1.3 RELATED REQUIREMENTS

(Not Used)

1.4 DEFINITIONS

ppm - Parts Per Million

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

1.5 SYSTEM DESCRIPTION

(Not Used)

1.6 SUBMITTALS

Submit the following in accordance with the Vendor Drawing and Data Requirement section of the Order/Subcontract.

1.6.1 Seller's procedure for handling, cleaning, isolation and storage of stainless steel and nickel alloys shall be submitted for Buyer approval. These procedures shall be submitted prior to the start of fabrication.

1.6.2 Chemical analysis for materials that are not intended to be removed after fabrication shall be submitted for information. Examples of these materials are: lubricants, thread compound, nondestructive examination materials, etc.

1.6.3 Procedure for the isolation and separation of stainless steel wire brushes and grinding material shall be submitted for Buyer approval.

1.7 CLASSIFICATION OF SYSTEMS AND COMPONENTS

(Not Used)

1.8 PROJECT OR SITE ENVIRONMENTAL CONDITIONS

(Not Used)

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

2.1.1 All limitations specified, e.g., percent, parts per million (ppm) etc., are to be by weight.

2.1.2 All consumables and materials used during fabrication shall meet the following general requirements unless addressed in more detail in this specification section.

2.1.2.1 Maximum chloride content shall be 250 ppm.

2.1.2.2 Maximum sulfur content shall be 1 percent.

2.1.2.3 Low melting point elements (such as cadmium, lead, mercury, tin and zinc) shall not be added.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

2.1.3 Carbon Steel Contamination

2.1.3.1 Tools and equipment used to cut, form and handle stainless steel and nickel alloys shall be in accordance with one of the following requirements:

A. Tools and equipment shall be hardened tool steel or chrome plated.

B. Surfaces of non-stainless steel tools and equipment which comes into contact with stainless steel shall be covered either with paper, plastic or stainless steel sheet.

2.1.3.2 Grinding equipment and stainless steel wire brushes previously used on carbon steel shall not be used on stainless steel and nickel alloys.

2.1.3.3 Temporary attachments for welding or fabrication shall be of a similar grade material (e.g., 300 series stainless steel shall be used for a temporary attachment to 304L stainless steel) to the pressure component.

2.1.3.4 If scaffolding or ladders are used during fabrication, the contact surfaces at the stainless steel or nickel alloy interface shall be protected either by wood or plastic. No direct contact shall be permitted.

2.1.3.5 Areas used for fabrication of stainless steel and nickel alloys shall be separate from carbon steel fabrication areas. These areas shall be kept free of carbon steel shavings and grinding dust.

2.1.3.6 Where it is not possible to provide protection from carbon steel, the components shall be chemically cleaned to dissolve any carbon steel which may be embedded in the stainless steel or nickel alloy surface. The cleaning requirements shall be in accordance with ASTM A380.

2.1.3.7 Non-metallic slings shall be used when safe to do so. Lifting with carbon steel chains from lifting lugs is acceptable. Chemically clean lugs prior to shipment of equipment. Cleaning shall be in accordance with Paragraph 2.1.3.6.

2.1.3.8 Carbon steel strapping material used for shipping shall not contact stainless steel or nickel alloy equipment or piping.

2.1.3.9 Surfaces that are found to be contaminated with carbon steel shall be restored. Mechanical descaling is the preferred method. It shall be performed in accordance with ASTM A380.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

- 2.1.3.10 Walking directly upon stainless steel surfaces shall be avoided where possible. Surfaces upon which walking access is required shall be protectively covered with kraft paper, cardboard, plastic or equivalent.
- 2.1.3.11 Acceptable Carbon Steel Contamination

Scattered areas of carbon steel contamination as evidenced by rust are permissible provided the aggregate area does not exceed 2 sq. in. in any 1 sq. ft. area.
- 2.1.4 Wrapping and Protective Covering Materials
 - 2.1.4.1 No chloride restriction shall apply to wrapping and protective covering material (such as polyethylene and polyvinyl chloride (PVC) films) when used for packaging or storage purposes. PVC caps, plugs and packaging material shall not be reused.
 - 2.1.4.2 No chloride restriction shall apply to pressure-sensitive tapes or adhesive-backed tapes. Pressure-sensitive tapes or adhesive-backed tapes shall not be used within 12 inches of any area where local heating or welding may increase the metal temperature to 180°F or higher.
 - 2.1.4.3 Where tape is used during welding for back purging, the tape's chloride content shall be less than 250 ppm (Stockwell Rubber Company G-568 or equal).
 - 2.1.4.4 After pressure-sensitive and adhesive-backed tapes are no longer required they shall be removed. Any remaining residual adhesive shall be removed. Acetone or solvent shall be used. Solvent shall be in accordance with Paragraph 2.1.7.
- 2.1.5 Grinding Discs, Abrasive Discs, Brushes and Material Removal Tools
 - 2.1.5.1 Grinding discs, abrasive discs and brushes shall be designated for use on stainless steel and nickel base alloys. These materials shall not have been previously used on carbon steel, low alloy steels or nonferrous metals and their alloys.
 - 2.1.5.2 Grinding discs, abrasive discs and belts shall be of resin-bonded alumina, silicon carbide or zirconium carbide. Sulfurized compounds shall not be used as a bonding material.
 - 2.1.5.3 Only 300 series stainless steel brushes shall be used on stainless steel and nickel base alloys.
 - 2.1.5.4 All material removal and cleaning tools shall be marked to identify that they are to be used on stainless steel and nickel alloys only.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

2.1.6 Nondestructive Examination Materials

- 2.1.6.1 Sulfur and halogen content of liquid penetrant materials shall be in accordance with the requirements of ASME Section V, Article 6, T-625.

2.1.7 Cleaning Fluids

Chlorinated hydrocarbon solvents may be used for stainless steel cleaning provided they are analyzed for total residual chlorine and sulfur. The analysis process is as follows:

- A. Select and weigh a glass Petri dish of 150mm nominal diameter. Note the weight.
- B. Pour a 100 gram sample of the solvent into the Petri dish.
- C. Heat the sample for 60 minutes. The heating temperature shall be between 194°F and 212°F, inclusive.
- D. Weigh the Petri dish again. Subtract the weight noted in Step A from the new weight. This is the weight of the solvent residue.
 - 1) If the residue is less than 0.005 grams, the solvent is acceptable. No further analysis is required.
 - 2) If the residue weight is 0.005 grams or more, repeat Steps A through C. Test the residue for sulfur content in accordance with ASTM D129 or ASTM D1552. Test the residue for halogen content in accordance with ASTM D808.

The sulfur or chlorine shall not exceed 1 percent of the residue by weight in any case.

2.2 FABRICATION AND MANUFACTURE

2.2.1 Cleaning Requirements

All surfaces to be welded shall be free of paint, oil, grease, dirt and other foreign materials detrimental to the weld soundness. An area not less than 4 inches wide on each side of weld joint shall be cleaned. Acceptable cleaning methods shall be mechanical or chemical methods in accordance with ASTM A380.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

PART 3 EXECUTION

3.1 PREPARATION

(Not Used)

3.2 INSTALLATION, APPLICATION AND ERECTION

3.2.1 After welding all foreign material such as flux, anti-spatter compound, slag and spatter shall be removed. Removal can be accomplished either by mechanical or chemical methods.

3.2.2 Heat tint and scale shall be permitted on nonprocess side of weld joint. When required, heat tint and scale can be removed either by mechanical or chemical descaling methods. For mechanical descaling, precleaning and postcleaning is required.

3.2.3 Liquid penetrant and ultrasonic examination materials shall be completely removed from surface after examination. Removal shall be in accordance both with manufacturer's recommendation and this specification section.

3.3 FIELD QUALITY CONTROL

(Not Used)

3.4 ADJUSTMENTS

(Not Used)

3.5 CLEANING

(Not Used)

3.6 PROTECTION

(Not Used)

3.7 DEMONSTRATION

(Not Used)

3.8 - SCHEDULES

(Not Used)

END OF SECTION

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U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

SECTION 14601
POUR TURNTABLE
B-595-P-P06B-14601

APPROVED FOR CONSTRUCTION

REVISION 0
ISSUE DATE 4-6-93

| | | | | |
|---------------|-----|-------------|----|-------------|
| WAPA | YES | <u> </u> | NO | <u>X</u> |
| QUALITY LEVEL | I | <u> </u> | II | <u>X</u> |
| SAFETY CLASS | 1 | <u> </u> | 2 | <u> </u> |
| | | <u> </u> | 3 | <u>X</u> |
| | | <u> </u> | 4 | <u> </u> |

ORIGINATOR:

CHECKER:

N. J. Chatelier 03/29/93
N. J. Chatelier, Mechanical Engineer Date

D. A. Buzzelli 3-29-93
D. A. Buzzelli, Lead Disc. Checker Date

APPROVED BY:

C. J. Divona
C. J. Divona Lead Discipline Engineer

3/29/93
Date

SECTION 14601
 POUR TURNTABLE
 B-595-P-P06B-14601

TABLE OF CONTENTS

| <u>PART</u> | <u>PAGE</u> |
|--|-------------|
| PART 1 GENERAL | 1 |
| 1.1 SUMMARY | 1 |
| 1.2 REFERENCES | 1 |
| 1.3 RELATED REQUIREMENTS | 2 |
| 1.4 DEFINITIONS | 3 |
| 1.5 SYSTEM DESCRIPTION | 3 |
| 1.6 SUBMITTALS | 5 |
| 1.7 CLASSIFICATION OF SYSTEMS AND COMPONENTS | 6 |
| 1.8 PROJECT OR SITE ENVIRONMENTAL CONDITIONS | 6 |
| PART 2 PRODUCTS | 6 |
| 2.1 MATERIALS AND EQUIPMENT | 6 |
| 2.2 FABRICATION AND MANUFACTURE | 10 |
| 2.3 INSPECTION AND DIMENSIONAL RECORDS | 13 |
| 2.4 TESTING | 15 |
| PART 3 EXECUTION | 19 |

ATTACHMENTS

| <u>ATTACHMENT</u> | <u>TITLE</u> |
|-------------------|-------------------|
| A | CONTRACT DRAWINGS |
| B | RELATED DRAWINGS |

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

SECTION 14601 POUR TURNTABLE

PART 1 GENERAL

1.1 SUMMARY

This specification section covers the technical requirements for the fabrication, inspection and testing of a Pour Turntable (PTT).

1.2 REFERENCES

The publications listed below form a part of this specification section to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN GEAR MANUFACTURING ASSOCIATION (AGMA)

AGMA 420.04 1978 Speed Reducer and Gear Drives

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) and/or

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ANSI/ASME B46.1 1985 Surface Texture (Surface Roughness, Waviness, and Lay)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A193/A193M 1990 (Rev. A) Standard Specification for Alloy-Steel and Stainless Steel Bolting Materials for High-Temperature Service

ASTM A194/A194M 1990 (Rev. A) Standard Specification for Carbon and Alloy Steel Nuts for Bolts for High-Pressure and High-Temperature Service

ASTM A240 1991 (Rev. A) Standard Specification for Heat-Resisting Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels

ASTM A276 1990 (Rev. A) Standard Specification for Stainless and Heat-Resisting Steel Bars and Shapes

| | |
|--|---|
| ASTM A312/A312M | 1991 (Rev. A) Standard Specification for Seamless and Welded Austenitic Stainless Steel Pipe |
| ASTM A480/A480M | 1991 (Rev. A) General Requirements for Flat Rolled Stainless and Heat-Resisting Steel Plate, Sheet, and Strip |
| AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME) Boiler And Pressure Vessel Code | |
| ASME Section IX | 1989 Welding and Brazing Qualifications |
| ANTI-FRICTION BEARING MANUFACTURERS ASSOCIATION (AFBMA) | |
| AFBMA 9 | 1990 Load Ratings and Fatigue Life for Ball Bearings |
| AFBMA 11 | 1990 Load Ratings and Fatigue Life for Roller Bearings |
| AFBMA 20 | 1977 Metric Ball and Roller Bearings Conforming to Basic Boundary Plans |
| AFBMA 21.2 | 1978 Roller, Ball, and Thrust Bearings |
| OFFICE OF FEDERAL SUPPLY AND SERVICES | |
| QQ-P-35C | Passivation Treatments for Corrosion Resistant Steel |
| STEEL STRUCTURES PAINTING COUNCIL (SSPC) | |
| SSPC PA-2 | 1982 Paint Application Specification Number 2, Measurement of Dry Paint Thickness with Magnetic Gauges |
| SSPC SP-10 | 1989 Surface Preparation Specification Number 10, Near-White Blast Cleaning |

1.3 RELATED REQUIREMENTS

| | |
|-----------------------------|--|
| Specification Section 01730 | Operation and Maintenance Data |
| Specification Section 05060 | Welding Structural |
| Specification Section 13252 | Precautions for Fabrication, Handling and Storage of Stainless Steel and Nickel Alloys |
| Specification Section 14603 | Cable Reel Assembly |

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

| | |
|-----------------------------|--|
| Specification Section 14604 | Track and Catch Pan Assembly |
| Specification Section 15196 | Identification and Tagging Methods for Mechanical Equipment |
| Specification Section 16120 | Soldering - Electrical |
| Specification Section 16151 | Motors - Induction for Radioactive Service |
| Specification Section 16610 | Electrical Requirements for Packaged Mechanical Equipment |
| Specification Section 17857 | Local Control Panels for Pour and Drain Turntables |
| Specification Section 17886 | Instruments Furnished with Mechanical Equipment Load Cell Signal Conditioner - Pour and Drain Turntables |
| Specification Section 17908 | Instruments Furnished with Mechanical Equipment - Pour and Drain Turntables |

CONTRACT DRAWINGS

Drawings as listed in Attachment A.

RELATED DRAWINGS

Drawings as listed in Attachment B.

1.4 DEFINITIONS

| | | |
|------|---|--------------------------------|
| ATP | - | Acceptance Test Procedure |
| CMTR | - | Certified Material Test Report |
| DTT | - | Drain Turntable |
| FAT | - | Factory Acceptance Test |
| NDE | - | Nondestructive Examination |
| PT | - | Liquid Penetrant Examination |
| PTT | - | Pour Turntable |
| TID | - | Total Integrated Dose |

1.5 SYSTEM DESCRIPTION

In the Melter Cell, highly-radioactive liquid wastes are melted in a refractory-lined steel vessel at a temperature of 2000°F. During normal operations the glass melt exits the pour spout into portable stainless steel canisters placed on the Pour Turntable (PTT).

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

The PTT will be stationed on tracks (part of the track and catch pan assembly, RA-130-009 and -010, Specification Section 14604) which extend under the melter. During filling of the canisters the glass level will be monitored by a turntable-mounted weighing system and an external gamma ray detection system. Electrical power to drive the PTT and positioning and weighing instrumentation will be provided by cable connected through the cable reel assembly (Specification Section 14603) mounted on a support frame at the south end of the tracks. If for any reason the melter must be emptied, it will be emptied into canisters positioned on the drain turntable (DTT). When the melter is completely drained, the PTT will be moved south on the tracks to a position clear of the melter. In the event of a drive system power failure, the turntables may be moved out from under the melter by a steel cable hooked to the overhead crane.

All canisters, assemblies and subassemblies are designed to be removed or replaced by a remotely-operated impact wrench and overhead crane. Required electrical power is supplied by jumpers and cable reels that connect each component from the wall nozzles in the Melter Cell to the PTT.

1.5.1 Turntable Cart Drive

The turntable cart drive wheels are connected through an electric clutch to a variable speed reversible 3/4 hp motor.

At high speed, the 1750 rpm motor drives a 535:1 gear reducer which drives the turntable assembly along the track at .5 in/sec. At a point approximately 9 inches from the end stop, a limit switch on the turntable contacts the end stop housing which reduces the motor speed to 175 rpm and reduces the travel speed .05 in/sec. As the adjustable stop contacts the fixed end stop on the track, a second limit switch shuts off the drive motor.

1.5.2 Turntable Spider Drive

The turntable contains a set of remoteable dollies and canisters which travel on two concentric machined rails mounted to the turntable frame. The dollies and canisters are driven by a variable speed, 3/4 hp reversible motor through a gear reducer and drive shaft. At high speed the 1750 rpm motor drives the 1167:1 gear reducer to rotate the dollies and canisters at 1/4 rpm, corresponding to a linear speed of .94 in/sec. At a point approximately 9 inches away from the pour spout centerline a limit switch is triggered to reduce the motor down to 175 rpm, which reduces the canister speed to .094 in/sec. As the canister approaches the pour spout, the trigger trips another limit switch which shuts off the motor.

1.6 SUBMITTALS

Submit the following in accordance with the Vendor Drawing and Data Requirements section of the Order/Subcontract.

- 1.6.1 Operation and maintenance data in accordance with Specification Section 01730.
- 1.6.2 Handling, shipping and storage procedures shall be submitted for Buyer review.
- 1.6.3 Acceptance Test Procedures (ATP) and checklist shall be submitted for Buyer approval in accordance with Paragraph 2.4.3.1.
- 1.6.4 Seller's Material Control Procedure shall be submitted for Buyer review in accordance with Paragraph 2.1.2.2.
- 1.6.5 Detailed Procedure for Final Dimensional Check shall be submitted for Buyer approval in accordance with Paragraph 2.3.2.2.
- 1.6.6 Interchangeability Dimensional Record Drawing shall be submitted for Buyer review in accordance with Paragraphs 2.2.1 and 2.3.2.1.
- 1.6.7 Certified Material Test Reports (CMTRs) shall be submitted for Buyer review in accordance with Paragraph 2.1.4.1.
- 1.6.8 Weld Repair Procedure shall be submitted for Buyer approval in accordance with Paragraph 2.2.2.1.
- 1.6.9 Nondestructive Examination (NDE) procedure shall be submitted for Buyer review in accordance with Paragraph 2.3.1.1.
- 1.6.10 Test reports and inspection results shall be submitted for Buyer approval in accordance with Paragraphs 2.1.4.1, 2.1.8.1., 2.3.1.1, 2.3.2.1 and 2.4.1.3.
- 1.6.11 Support facilities descriptions shall be submitted for Buyer approval in accordance with Paragraph 2.3.2.3.
- 1.6.12 Dimensional Records shall be submitted for Buyer approval in accordance with Paragraph 2.3.2.1.
- 1.6.13 Descriptions of mixing, preparation and forming methodology to be used in installing insulation materials shall be submitted for Buyer review in accordance with Paragraph 2.2.7.
- 1.6.14 A load test report verifying the test strength of the swivel in Contract Drawing H-2-120422 shall be submitted for Buyer review.
- 1.6.15 A record of heat treatment for all applicable hardware shall be submitted for Buyer review.

- 1.6.16 A procedure to determine defects greater than 0.012" shall be submitted for Buyer approval.

1.7 CLASSIFICATION OF SYSTEMS AND COMPONENTS

(Not Used)

1.8 PROJECT OR SITE ENVIRONMENTAL CONDITIONS

1.8.1 Climatic and Geographic Site Conditions

- | | |
|------------------------|--------------------------|
| A. Site Elevation | 714 feet above sea level |
| B. Barometric Pressure | 14.3 psia |

1.8.2 Operating Environment

- | | |
|-----------------------------|--------------------------------------|
| A. Normal Temperature Range | 60°F to 104°F |
| B. Design Basis Temperature | 104°F |
| C. Relative Humidity | Not controlled |
| D. Radiation Level | 3×10^8 rads (TID, 10 years) |

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

This specification section is in reference to the following equipment:

| <u>Equipment No.</u> | <u>Equipment Name</u> |
|----------------------|-----------------------|
| RA-130-001 | Pour Turntable |

2.1.1 Materials

Components used in fabrication shall be in accordance with the Contract Drawings. Fabrication materials shall be as follows, unless otherwise noted in drawings.

- 2.1.1.1 All stainless steel plate, sheet and strip shall be in accordance with ASTM A240, Type 304L, hot rolled, annealed and pickled. Blasting as a descaling method shall not be permitted.
- 2.1.1.2 All stainless steel bars and shapes shall be in accordance with ASTM A276, Type 304L, Condition A and Class C.

- 2.1.1.3 Stainless steel structural bolts shall be in accordance with ASTM A193/A193M, Grade B6, Type 304.
- 2.1.1.4 Stainless steel structural nuts shall be in accordance with ASTM A194/A194M, Grade 8M or equal.
- 2.1.1.5 Stainless steel pipe and tubing shall be in accordance with ASTM A312/A312M.
- 2.1.1.6 The turntable speed reducer and gear train shall both be in accordance with AGMA 420.04.
- 2.1.1.7 The drive train bearings shall be in accordance with AFBMA 9, AFBMA 11, AFBMA 20 and AFBMA 21.2 as applicable.
- 2.1.1.8 Electrical cable and equipment shall be in accordance with Specification Sections 16120 and 16610.
- 2.1.2 Material Contamination
 - 2.1.2.1 Specification Section 13252 provides requirements for materials used in contact with austenitic stainless steel and non-ferrous metals. This specification section applies to all materials.
 - 2.1.2.2 Upon completion of fabrication, examination and tests by Seller, the metal surfaces shall be in accordance with the requirements of Specification Section 13252. Seller's Material Control Procedures shall describe the actions to be taken in the event of material contamination. They shall also address the cleaning and protection of materials as required.
- 2.1.3 Surface Finish
 - 2.1.3.1 Unless otherwise specified on Contract Drawings, surface finish for various material forms shall be as follows: Plates shall be finished in accordance with ASTM A480/A480M Section 10, Paragraph 10.1.2, hot-rolled, annealed and pickled No. 1 finish. A shot or grit-blasted surface is not acceptable. Sheets shall be finished in accordance with ASTM A480/A480M Section 8, Paragraph 8.1.2, No. 2D finish. Strips shall be finished in accordance with ASTM A480/A480M Section 9, Paragraph 8.1.1, No. 2 finish.
 - 2.1.3.2 Unless otherwise specified on the Contract Drawings, machined surfaces shall have a 125AA finish in accordance with ANSI/ASME B46.1.
 - 2.1.3.3 No arc strikes, nicks, gouges or other surface defects are permitted. Defects greater than .012 inch in depth shall be repaired by welding and grinding to restore original surface contour. Defects of lesser depth shall be removed by grinding or

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

polishing. Grinding shall be performed using 125 grit or finer abrasive wheels. No defects or grinding marks deeper than those left by a 125 grit abrasive wheel are permitted.

2.1.4 Material Control

2.1.4.1 One (1) copy of Certified Material Test Reports (CMTRs) shall be provided for all material and submitted for Buyer review.

2.1.5 Equipment Provided by Seller

2.1.5.1 The equipment to be furnished shall be built to print and in accordance with the Related Requirements listed in Paragraph 1.3, the Contract Drawings and this specification section. Seller's work includes: furnish materials, manufacture, assemble, test and deliver the following components in accordance both with the Contract Drawings and this specification section:

- A. A pour turntable assembly complete with cart drive, turntable drive, canister dollies, canister guides and canister weighing system.
- B. All wiring, pull and junction boxes, electrical hardware, conduit and conduit installation as shown on the Contract Drawings and in accordance with Specification Section 16610.
- C. Any special tools and accessories required for installation or operation.
- D. Seller shall also provide facilities to measure and test the assembled turntable system as described in Paragraphs 2.3 and 2.4 of this specification section, including framework and support for dummy pour spout structure.

2.1.6 Equipment Provided by Buyer:

2.1.6.1 For testing:

Four test canisters (dummy fill not included).

2.1.6.2 For incorporation into component fabrication (equipment provided by Buyer):

- A. Upper and lower electrical connectors (PUREX connectors).
- B. Internal electrical components for the upper and lower connectors.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

2.1.7 Contract Drawings

Buyer's Contract Drawings for the PTT assembly and components have dimensional requirements that have been established to meet definite interface points. It is imperative that these interface dimensions be achieved for operational purposes. Drawing H-2-120302 shows the dimensional interface for the PTT.

2.1.8 Design Features, Considerations

2.1.8.1 Remoteability

Once radioactive wastes are introduced into the Melter Cell, manned entrance will no longer be possible for operation or maintenance. Therefore, all components are designed to be remotely removable (hereafter referred to as "remoteable") by means of an overhead crane into less-radioactive areas for decontamination and maintenance. Furthermore, to the extent possible, assemblies are designed with remoteable subassembly modules to allow ready replacement of components without the necessity of removing and decontaminating the entire assembly. The following turntable subassemblies shall be remoteable:

Pour Turntable

Spider Drive Motor Assembly
Cart Drive Assembly
Canister Guide Weldments
Canister Dolly Assemblies
Fixed Stop Assembly
Load Cell Assembly

Each of the above subassemblies incorporates a lifting bail which can be engaged with the overhead crane hook or, in the case of heavy components, with lifting trunnions which can be engaged with a special lifting yoke suspended from the crane hook.

When suspended, all remoteable assemblies and subassemblies must be level within 2 degrees by proper placement of lift points and/or by counterweighting to assure proper engagement with alignment dowels and studs, except as noted on Contract Drawings.

Seller shall demonstrate and document the remoteability and balance of all applicable components in accordance with Paragraph 2.4.3.

2.1.8.2 All purchased rotating equipment (motors, gear boxes, bearings, etc.) shall be of a design that can be lubricated with CHEVRON SRI-NLGI2 grease or equal. Seller shall clearly indicate the appropriate lubricant level on the equipment. These items shall

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

be cleaned and repacked with the above-mentioned lubricant at assembly prior to installation at the facility.

2.2 FABRICATION AND MANUFACTURE

The pour turntable and components shall be fabricated in accordance both with this specification section and PTT Assembly Drawing H-2-120302.

2.2.1 Interchangeability

Each remoteable assembly must be interchangeable with spare assemblies. This requires that all mounting surfaces be precisely located in three planes.

To ensure interchangeability of subsequent assemblies the close tolerance requirements shown in Contract Drawings shall be strictly adhered to. Seller must conduct all close tolerance work with respect to established datum references. Work shall be performed under controlled temperature conditions as deemed necessary in order to achieve and maintain specified dimensions and tolerances. The reference temperature for dimensions and tolerances is 68°F. Seller shall complete the Dimensional Record Drawing H-2-120460 and submit for Buyer review.

2.2.2 Welding

All welding and NDE shall be performed in accordance with Specification Section 05060.

2.2.2.1 Repairs

Seller shall prepare and submit a complete repair procedure for Buyer approval. At minimum, the repair procedure shall include:

- A. Type and extent of repairable defects.
- B. Defect removal methods. These shall include NDE methods to assure complete defect removal.
- C. Repair method. This shall include weld preparation, treatment and reference to ASME Section IX qualified weld procedures.

2.2.2.2 Fabrication of all components and assemblies shall minimize crevices, pockets, absorbent materials or similar voids where contaminants can be trapped.

2.2.2.3 All stainless steel surfaces shall be passivated in accordance with Federal Specification QQ-P-35C.

2.2.3 Coatings

2.2.3.1 Carbon Steel Surfaces

Carbon steel surfaces which will be exposed to cell environment shall be prepared for painting in accordance with SSPC SP-10. Primer shall be an inorganic zinc-rich primer (Ameron Dimetecote 9 or equal), one coat, with a total dry film thickness of 2.5 mils plus or minus .5 mils and a minimum of 6 grams zinc per square foot of dried film. Finish coat shall be a high-build polyamide epoxy paint (Amercoat 66 or equal), two coats, with total dry film thickness of 10 mils plus or minus .5 mils. The total system dry film thickness of primer and finish coat shall be 12.5 plus or minus 1.0 mils. Surface color shall be white. Paint shall be applied in accordance with paint manufacturer's recommended methods. Typical surfaces to be painted are housings for motors, gear reducers and other components requiring surface protection.

Contact surfaces of gears, wheels, rails and bearings shall not be painted.

2.2.3.2 Stainless Steel Surfaces

Stainless steel surfaces shall be painted for the purpose of identification only.

2.2.3.3 Inspection

Dry film thickness measurements shall be verified with a calibrated magnetic thickness gauge (Nordson "Mikrotest" or equal) and shall be in accordance with SSPC PA-2.

2.2.3.4 Defects

Defects or damaged areas detected during shop assembly, handling, testing and disassembly shall be repaired. The surface cleanliness and profile shall be restored to meet the specified surface preparation requirements. Precautions shall be taken to protect adjacent coated areas from damage by cleaning. The periphery of the damaged area shall be feathered. The use of vacuum blast type equipment, needle guns and peening wheels is permitted to restore profile.

2.2.3.5 Seller shall provide one gallon each of primer and finish paint for field touch-up.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

2.2.4 Nameplate

Each item of equipment shall be fitted with a stainless steel nameplate securely attached by pins of a similar material. The nameplate shall be in accordance with Specification Section 15196, Paragraph 2.2.2, Type 6.

2.2.5 Instrumentation and Controls

2.2.5.1 All instrumentation and controls shall be in accordance with Specification Sections 17857, 17886 and 17908.

2.2.6 Electrical Components

Functional requirements of electrical components, instrumentation and definition of Seller/Buyer interfaces are shown in the electrical and instrument diagrams and Contract Drawings listed in Attachment A.

2.2.6.1 Motors

Seller shall provide electric motors as specified in Specification Section 16151 and the Contract Drawings (Attachment A). Electric motor data sheet of Specification Section 16151 shall be completed by Seller.

Surface protection of motors and related components shall be in accordance with Paragraph 2.2.3.

The turntable drive motor shall be complete with a shaft extension to accommodate impact wrench operation of the turntable in the event of an electrical failure.

2.2.6.2 Wiring and Cabling

Seller shall provide and install all cables, conduit, pull and junction boxes as shown on Contract Drawings and in accordance with Specification Section 16610.

Lower electrical connectors shall be modified, mounted and located in accordance with the Contract Drawings.

2.2.7 Insulations

The insulations used on the equipment covered by this section are of the molded variety and called out in applicable Contract Drawings (Attachment A). Seller is to prepare and form the insulation in accordance with manufacturer's recommended methods. At least one month of shelf life is to remain on the product at the time of installation into the applicable equipment. Seller shall submit a description of mixing, preparation and forming

methodology to be used in installing this insulation into the equipment.

2.3 INSPECTION AND DIMENSIONAL RECORDS

2.3.1 Seller shall perform an inspection of all equipment supplied to verify conformance to this specification section. Buyer reserves the right to witness any or all inspections or other activities affecting this specification section and requires a written notice prior to initiation of these inspection-related activities.

2.3.1.1 Welding Inspection and Criteria

Lifting lugs, structural members and full penetration welds shall be surface examined using nondestructive examination (NDE). Inspection methods are:

- 100 % visual and
- 100 % Liquid Penetrant Examination (PT)

A final surface examination shall be performed after completion of the proof test. Buyer shall review examination results and reports in detail.

Acceptance criteria for NDE shall be in accordance with Specification Section 05060. Buyer shall review Seller's NDE procedure, material certification and reports to assure accuracy.

2.3.2 Dimensional Records

2.3.2.1 Seller shall perform a complete dimensional inspection of the PTT. A mylar copy of Drawing H-2-120460 shall be provided by the Buyer for the Seller to use for documentation and return.

Seller shall record, on the mylar copy, the actual as-built dimensions required by the drawing with respect to datums, dowel pins or holes identified. Where duplicate equipment pieces are involved, a separate serial number shall be recorded on both the piece nameplate and tracing.

X, Y and Z coordinates specified on Drawing H-2-120460 shall be measured with the pour turntable placed on the tracks supplied with the Track and Catch Pan Assembly defined in Specification Section 14604.

Dimensional inspection is to be made after proof load tests are completed as described in Paragraph 2.4.3.4.

2.3.2.2 Seller shall submit detailed final dimensional check procedures for Buyer approval. These shall include:

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

- A. Methods of measurement applicable to specific components or assemblies.
- B. Type of measuring device used.
- C. Methods, frequency and verification of calibration for the precision measurement devices.

2.3.2.3 Facilities Required for Dimensional Measurements

Seller shall provide an enclosed or partitioned area in which to make dimensional measurements of the assembled PTT. Within this area there shall be no interference by any other manufacturing operation such as arc welding or equipment movement. This area will provide a 7-foot clear walkway around the equipment. This area may be the same as the test area described in Paragraph 2.4.2 but must be large enough to accommodate all equipment required for the dimensional inspection. The area must be equipped with a seven-day temperature recorder provided by the Seller to document ambient temperature control. The recorder shall have a current calibration tag. For the purpose of measurement orientation, operation and testing the position on the turntable which has the receptacle for the emergency tow cable shall be considered the South End or 6 o'clock position. The area shall be temperature controlled to $68^{\circ}\text{F} \pm 5^{\circ}\text{F}$ throughout the time measurements are made. Adequate lighting of at least 100-foot candle average shall be provided. An overhead crane will be required. The rated lifting capacity of this crane shall be no less than 20 tons. The crane hook shall clear the height of 39'-2" from the floor.

Seller shall supply rigid supports for optical transits and levels. These supports shall be free standing, not touching the turntable or track system. Substantial platforms, ladders, stairs, handrails, etc. which meet OSHA standards shall be provided. Seller shall submit drawings and/or equipment specifications of the following for Buyer approval:

- A. Measurement enclosure area.
- B. Optical instrument supports.
- C. Platforms, ladders and handrails.

2.3.3 Buyer Witnessing of Dimensional Checks

Buyer shall be notified in advance of the date when final dimensional measurements are to be made. Buyer reserves the right to witness Seller's final dimensional measurements.

2.4 TESTING

2.4.1 General

2.4.1.1 A Factory Acceptance Test (FAT) shall be conducted in accordance with this specification section and applicable codes and standards at Seller's plant prior to delivery. This test shall demonstrate satisfactory operation of all equipment and control logic under simulated loading conditions. All tests shall be performed at ambient temperature. Heating of canisters or their content is not required.

2.4.1.2 Except for the equipment listed in Paragraph 2.1.6, Seller shall provide all equipment, facilities and labor necessary to meet the requirements of the FATs.

2.4.1.3 Seller shall maintain records of all test data and those observations pertinent to equipment performance. A copy of these records shall be submitted for Buyer review.

2.4.1.4 Buyer shall be informed in advance of date that all factory tests are to be conducted. Buyer reserves the right to attend and witness all factory tests.

2.4.2 Special Facilities Required for Testing

2.4.2.1 A test area of sufficient size to assemble and operate all equipment covered by this specification section.

2.4.2.2 The structural framework to support a simulated (dummy) flange of the melter pour spout assembly to demonstrate the dimensional line-up of the canisters in the pour position.

2.4.2.3 An overhead crane shall be available for testing. Rated lifting capacity of the crane shall be no less than 20 tons. A 1/2 ton electric hoist will also be required.

2.4.3 Acceptance Test Procedure

2.4.3.1 An Acceptance Test Procedure (ATP) shall be submitted for Buyer approval. The ATP shall cover, as a minimum, all activities identified below plus any other activities determined by Seller as being significant to the overall performance of the equipment. The ATP shall include demonstration of the functionality and remoteability of the PTT and its subassemblies. Seller shall submit a checklist for approval prior to beginning the tests. The checklist shall contain the tests to be performed. It shall identify all instruments and special equipment to be used and measurements to be made. The tests shall include but not be limited to the following:

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

- A. Initial set-up of the PTT on the rail/track system.
- B. Test of lifting trunnions to verify mechanical integrity.
- C. Verification of interface dimensions.
- D. Demonstration of PTT cart drive and rotational drive position limit switches.
- E. Accuracy of the canister weighing system.
- F. Remoteability of turntable sub-assemblies.
- G. Record the weight of the fully-assembled PTT on Dimensional Record Drawing H-2-120460.

2.4.3.2 The following test sequence is intended as a guide to enable Seller to plan for the equipment and services to support the set-up and tests. The set-up and test area may be the same as outlined in Paragraph 2.3.2.3 and 2.4.2.

- A. Test the lifting trunnions for mechanical integrity as outlined in Paragraph 2.4.3.4.
- B. Verify the PTT for compliance of interface dimensions, including electrical connectors (PUREX type).
- C. Test cart drive and limit switches for accuracy at predetermined locations at both ends on the rail. Repeat this test 10 times.
- D. Check cart drive motor for temperature rise and full load current.
- E. Return the PTT to predetermined location near pour spout dummy flange.
- F. Demonstrate accuracy of the spider drive and limit switches. Repeat this test 20 times at 90 degree increments.
- G. Verify temperature rise and full load current of spider drive motor.
- H. Weigh the fully-assembled PTT.

2.4.3.3 Turntable and Weigh Scale Testing with Canisters in Place

The following tests require the availability of a total of four (4) canisters of a known net weight. Three (3) of the canisters shall be preloaded/filled to simulate various operating weights (lead shot or equal). Canisters shall have the following fill weights:

Canister No. 1 - No fill weight (empty)
Canister No. 2 - 2000 lbs. fill weight
Canister No. 3 - 3000 lbs. fill weight
Canister No. 4 - 4360 lbs. fill weight

The weigh scale should reflect the correct weight in each case. Glass draining and turntable operation shall be simulated by loading the canisters on the turntable. The emergency tow cable receptacle on the turntable shall be designated as the 6 o'clock position.

- 2.4.3.3.1 Drive PTT under pour spout flange. Adjust stop and limit switch as required to match fixed stop on track. Demonstrate repeatability of stop.
- 2.4.3.3.2 Extend upper pour spout bellows against pour spout flange.
- 2.4.3.3.3 Attach instrument connections for weigh scale. Attach air connection to bellows. (For test purposes, Seller may substitute flexible connections to the turntable rather than rigid jumpers as used in the Melter Cell.)
- 2.4.3.3.4 Install canisters on PTT. Rotate PTT counterclockwise to adjust rotational limit switches. Rotate PTT clockwise to verify reversibility.
- 2.4.3.3.5 Actuate canister positioning arm. Verify centering of canister under pour spout.
- 2.4.3.3.6 Verify accuracy of weigh scale. Extend lower bellows. Verify additional indicated weight based on downward force exerted by bellows.
- 2.4.3.3.7 Connect a vacuum line to the bellows nozzle. Verify that leakage at 25 inches of H₂O vacuum does not exceed 40 lbs/hr.
- 2.4.3.3.8 Repeat sequence of PTT rotation, positioning arm operation and bellows extension to verify satisfactory performance of all components. The canisters shall be loaded on the turntable (one at a time rotating the turntable in a clockwise direction) in such a manner that, on the completion of loading all four canisters, the first canister shall be in the 6 o'clock position.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

- 2.4.3.3.9 Canisters shall then be removed one at a time starting with the canister in the 6 o'clock position, and rotating the turntable clockwise until all four canisters are removed.
- 2.4.3.3.10 The entire above sequence of operation shall be repeated eight (8) times. Verification of dimensional interface of flanges, accuracy of the spider drive, limit switches and weigh scale, along with drive motor temperature rise and full load current, shall be completed and documented during these tests.
- 2.4.3.3.11 Verify remoteability of each component in accordance with Paragraph 2.1.8.1.
- 2.4.3.4 Trunnion Proof Test
 - 2.4.3.4.1 A trunnion proof test shall be performed. The test shall be based on lifting a load that is 150% greater than the weight of the PTT assembly without the canisters.
 - 2.4.3.4.2 During each lift test the PTT shall be suspended for 10 minutes at a lift height of not less than 12 inches above the rails. This test shall be repeated 10 times with a waiting period of two (2) minutes between tests.
 - 2.4.3.4.3 After completion of the lifting cycle an NDE inspection/evaluation shall be performed in accordance with Paragraph 2.3.1.1. The visual inspection shall include the verification for any deformation/stress cracking on the lifting trunnion and its basic load-bearing members.
- 2.4.3.5 Acceptance Criteria

The criteria for acceptance of the equipment by the Buyer from the Seller is as follows:

 - A. Satisfactory and repeatable operation of the turntable cart drive as demonstrated in Paragraphs 2.4.3.2 and 2.4.3.3.1.
 - B. Satisfactory and repeatable operation of the turntable spider drive as demonstrated in Paragraphs 2.4.3.2 and 2.4.3.3.
 - C. The ability of all remoteable assemblies defined in Paragraph 2.1.8.1 to functionally assemble over their dowel pins and studs, mate up properly with their lower connector interface, and balance when lifted by the bail within 2 degrees of vertical (or horizontal).
 - D. The ability of the entire turntable assembly complete with remoteable assemblies installed to balance when lifted by the trunnions within 2 degrees of vertical.

- E. Satisfactory, repeatable and complete functionality of all electrical interfaces (electrical nozzles), electrically operated motors and all limit switches.
- F. Satisfactory and repeatable operation of the weigh scale and load cell as demonstrated in Paragraph 2.4.3.3.
- G. Satisfactory completion of proof load test and subsequent NDE inspection as described in Paragraph 2.4.3.4.

PART 3 EXECUTION

(Not Used)

END OF SECTION

9513336.0837

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

**ATTACHMENT A
CONTRACT DRAWINGS**

| DRAWING NUMBER | SHEET | OF | TITLE |
|----------------|-------|----|--|
| H-2-120302 | 1 | 18 | Pour Turntable Parts List & Notes |
| H-2-120302 | 2 | 18 | Pour Turntable Assembly |
| H-2-120302 | 3 | 18 | Pour Turntable Assembly |
| H-2-120302 | 4 | 18 | Pour Turntable Assembly |
| H-2-120302 | 5 | 18 | Pour Turntable Assembly |
| H-2-120302 | 6 | 18 | Pour Turntable Assembly |
| H-2-120302 | 7 | 18 | Pour Turntable Assembly |
| H-2-120302 | 8 | 18 | Pour Turntable Assembly |
| H-2-120302 | 9 | 18 | Pour Turntable Assembly |
| H-2-120302 | 10 | 18 | Pour Turntable Assembly |
| H-2-120302 | 11 | 18 | Limit Switch Bracket Weldment |
| H-2-120302 | 12 | 18 | Drive Arm & Plunger Assemblies |
| H-2-120302 | 13 | 18 | Base Weldment |
| H-2-120302 | 14 | 18 | Wheel Cover Details |
| H-2-120302 | 15 | 18 | Wheel Cover Assembly |
| H-2-120302 | 16 | 18 | Bevel Gear |
| H-2-120302 | 17 | 18 | Assembly & Details |
| H-2-120302 | 18 | 18 | Details |
| H-2-120303 | 1 | 2 | Canister Guide Weldment |
| H-2-120303 | 2 | 2 | Canister Guide Details |
| H-2-120304 | 1 | 2 | Cart, Spider Drive Support Assembly |
| H-2-120304 | 2 | 2 | Cart, Spider Drive Support Details |
| H-2-120305 | 1 | 2 | Pour Turntable Cart Drive Parts List & Notes |
| H-2-120305 | 2 | 2 | Cart Drive Support Details |
| H-2-120306 | 1 | 14 | Spider Drive Motor Parts List |
| H-2-120306 | 2 | 14 | Spider Drive Motor Assembly |
| H-2-120306 | 3 | 14 | Spider Drive Motor Assembly |
| H-2-120306 | 4 | 14 | Mounting Plate |
| H-2-120306 | 5 | 14 | Limit Switch |
| H-2-120306 | 6 | 14 | Spider Drive Motor Frame Weldment |
| H-2-120306 | 7 | 14 | Spider Drive Motor Frame Weldment |
| H-2-120306 | 8 | 14 | Spider Drive Motor Frame Weldment |
| H-2-120306 | 9 | 14 | Spider Drive Motor Details |
| H-2-120306 | 10 | 14 | Spider Drive Motor Details |

9513336-0838

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

| DRAWING NUMBER | SHEET | OF | TITLE |
|----------------|-------|----|--|
| H-2-120306 | 11 | 14 | Spider Drive Motor Details |
| H-2-120306 | 12 | 14 | Spider Drive Motor Details |
| H-2-120306 | 13 | 14 | Pillow Block Support |
| H-2-120306 | 14 | 14 | Shaft Extension Assembly |
| H-2-120307 | 1 | 3 | Outer Rail Parts List & Notes |
| H-2-120307 | 2 | 3 | Outer Rails |
| H-2-120307 | 3 | 3 | Inner Rails |
| H-2-120308 | 1 | 4 | Cart Dr Mot Assy Parts List & Notes |
| H-2-120308 | 2 | 4 | Cart Drive Motor Weldment |
| H-2-120308 | 3 | 4 | Cart Drive Motor Splash Guard Assembly |
| H-2-120308 | 4 | 4 | Cart Drive Motor Details |
| H-2-120309 | 1 | 9 | Canister Dolly Assembly Parts List & Notes |
| H-2-120309 | 2 | 9 | Canister Dolly Assembly |
| H-2-120309 | 3 | 9 | Canister Dolly Trunnion Lifting Weldment and Details |
| H-2-120309 | 4 | 9 | Canister Dolly Weldment |
| H-2-120309 | 5 | 9 | Canister Dolly Top Plate Detail |
| H-2-120309 | 6 | 9 | Canister Dolly Base Plate Detail |
| H-2-120309 | 7 | 9 | Canister Dolly Body Details |
| H-2-120309 | 8 | 9 | Canister Dolly Wheel Mounting Plate Detail |
| H-2-120309 | 9 | 9 | Canister Dolly Cover Detail |
| H-2-120310 | 1 | 2 | Weldment Lifting Trunnion Parts List & Notes |
| H-2-120310 | 2 | 2 | Weldment Lifting Trunnion Details |
| H-2-120311 | 1 | 2 | Cart Support Assembly Parts List & Notes |
| H-2-120311 | 2 | 2 | Cart Support Details |
| H-2-120312 | 1 | 11 | Cart Drive Parts List & Notes |
| H-2-120312 | 2 | 11 | Cart Drive Assembly |
| H-2-120312 | 3 | 11 | Splash Guard Wheel Drive Left Side Assembly |
| H-2-120312 | 4 | 11 | Splash Guard Wheel Drive Right Side Assembly |
| H-2-120312 | 5 | 11 | Clutch Coupling Cover and Support Assembly |
| H-2-120312 | 6 | 11 | Splash Guard Wheel Drive Left Side Details |
| H-2-120312 | 7 | 11 | Splash Guard Wheel Drive Right Side Details |
| H-2-120312 | 8 | 11 | Clutch Coupling Cover Details |
| H-2-120312 | 9 | 11 | Clutch Coupling Details |
| H-2-120312 | 10 | 11 | Shaft and Spacer Details |
| H-2-120312 | 11 | 11 | Modified Geared Wheel Detail |
| H-2-120313 | 1 | 3 | Fixed Stop Assembly Parts List & Notes |

9513336.0839

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

| DRAWING NUMBER | SHEET | OF | TITLE |
|----------------|-------|----|--|
| H-2-120313 | 2 | 3 | Fixed Weldment and Plunger |
| H-2-120313 | 3 | 3 | Fixed Stop Details |
| H-2-120314 | 1 | 7 | Spider Drive Assembly Parts List & Notes |
| H-2-120314 | 2 | 7 | Weldment, Drive Base & Sub. Weldment |
| H-2-120314 | 3 | 7 | Spider Drive Details |
| H-2-120314 | 4 | 7 | Spider Drive Rail Details |
| H-2-120314 | 5 | 7 | Spider Drive Details |
| H-2-120314 | 6 | 7 | Spider Drive Weldment Details |
| H-2-120314 | 7 | 7 | Spider Drive Details |
| H-2-120315 | 1 | 3 | Cart Assembly Parts List & Notes |
| H-2-120315 | 2 | 3 | Cart Assembly |
| H-2-120315 | 3 | 3 | Cart Assembly |
| H-2-120316 | 1 | 11 | Upper Frame Assembly Parts List & Notes |
| H-2-120316 | 2 | 11 | Upper Frame Assembly |
| H-2-120316 | 3 | 11 | Upper Frame Assembly |
| H-2-120316 | 4 | 11 | Upper Frame Assembly |
| H-2-120316 | 5 | 11 | Support Rail A Assembly Details |
| H-2-120316 | 6 | 11 | Support Rail B Assembly Details |
| H-2-120316 | 7 | 11 | Support Rail C Assembly Details |
| H-2-120316 | 8 | 11 | Support Rail D Assembly Details |
| H-2-120316 | 9 | 11 | Upper Frame Details |
| H-2-120316 | 10 | 11 | Upper Frame Details |
| H-2-120316 | 11 | 11 | Upper Frame Details |
| H-2-120317 | 1 | 8 | Lower Frame Parts List & Notes |
| H-2-120317 | 2 | 8 | Lower Frame Assembly |
| H-2-120317 | 3 | 8 | Lower Frame Assembly |
| H-2-120317 | 4 | 8 | Lower Frame Beams Sections |
| H-2-120317 | 5 | 8 | Fixed Stop Holder Details |
| H-2-120317 | 6 | 8 | Roller, Drum & Bracket Assy Details |
| H-2-120317 | 7 | 8 | Lower Frame Assembly Parts Details |
| H-2-120317 | 8 | 8 | Lower Frame Assembly Parts Details |
| H-2-120318 | 1 | 4 | Carousel Assembly |
| H-2-120318 | 2 | 4 | Carousel Assembly |
| H-2-120318 | 3 | 4 | Carousel Details |
| H-2-120318 | 4 | 4 | Carousel Sub-Weldment |
| H-2-120319 | 1 | 7 | Conduit & Cable Assembly |
| H-2-120319 | 2 | 7 | Conduit & Cable Assembly |

9513336.0840

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

| DRAWING NUMBER | SHEET | OF | TITLE |
|----------------|-------|----|---|
| H-2-120319 | 3 | 7 | Conduit & Cable Assembly |
| H-2-120319 | 4 | 7 | Conduit & Cable Assembly |
| H-2-120319 | 5 | 7 | Conduit & Cable Assembly Details |
| H-2-120319 | 6 | 7 | Conduit & Cable Assembly Details |
| H-2-120319 | 7 | 7 | Conduit & Cable Assembly Details |
| H-2-120320 | 1 | 1 | Cart Heat Shield Support |
| H-2-120421 | 1 | 3 | Cart Drive Coupling Assy Parts List & Notes |
| H-2-120421 | 2 | 3 | Cart Drive Coupling Assembly & Details |
| H-2-120421 | 3 | 3 | Cart Drive Coupling Details |
| H-2-120422 | 1 | 3 | Emergency Pull Rope Assy Parts List & Notes |
| H-2-120422 | 2 | 3 | Emergency Pull Detail |
| H-2-120422 | 3 | 3 | Emergency Pull Rope Details |
| H-2-120423 | 1 | 1 | Dolly Positioning Gde Assy Parts List & Notes |
| H-2-120424 | 1 | 1 | Structural Weldment Details Pl & Notes |
| H-2-120425 | 1 | 3 | Spider Drive Coupling Assy Parts List & Notes |
| H-2-120425 | 2 | 3 | Spider Drive Coupling Details |
| H-2-120425 | 3 | 3 | Spider Drive Coupling |
| H-2-120426 | 1 | 3 | Dolly Wheel Assemblies Parts List & Notes |
| H-2-120426 | 2 | 3 | Dolly Wheel Details |
| H-2-120426 | 3 | 3 | Dolly Wheel Details |
| H-2-120427 | 1 | 4 | Canister Centering Guide Assembly |
| H-2-120427 | 2 | 4 | Canister Centering Guide Assembly |
| H-2-120427 | 3 | 4 | Canister Centering Guide Details |
| H-2-120427 | 4 | 4 | Canister Centering Guide Details |
| H-2-120428 | 1 | 4 | Scale Platform Assembly |
| H-2-120428 | 2 | 4 | Scale Platform Weldment |
| H-2-120428 | 3 | 4 | Scale Platform Rails |
| H-2-120428 | 4 | 4 | Scale Platform Details |
| H-2-120429 | 1 | 11 | Weigh Scale Assembly |
| H-2-120429 | 2 | 11 | Scale Assembly |
| H-2-120429 | 3 | 11 | Scale Assembly Base Weldment |
| H-2-120429 | 4 | 11 | Scale Assembly Base Weldment |
| H-2-120429 | 5 | 11 | Scale Assembly Base Weldment |
| H-2-120429 | 6 | 11 | Scale Assembly Base Weldment |
| H-2-120429 | 7 | 11 | Scale Assembly Base Weldment |
| H-2-120429 | 8 | 11 | Scale Assembly Details |
| H-2-120429 | 9 | 11 | Scale Assembly Details |

| DRAWING NUMBER | SHEET | OF | TITLE |
|----------------|-------|----|---|
| H-2-120429 | 10 | 11 | Scale Assembly Details |
| H-2-120429 | 11 | 11 | Scale Assembly Details |
| H-2-120430 | 1 | 3 | Load Cell Parts List & Notes |
| H-2-120430 | 2 | 3 | Load Cell Base Weldment |
| H-2-120430 | 3 | 3 | Load Cell Details |
| H-2-120450 | 1 | 2 | Enclosure Assemblies Parts List & Notes |
| H-2-120450 | 2 | 2 | Enclosure Assemblies |
| H-2-120451 | 1 | 1 | Flexible Metal Hose Assy Parts List & Notes |
| H-2-120452 | 1 | 4 | Support Structure Assembly |
| H-2-120452 | 2 | 4 | Support Structure Details |
| H-2-120452 | 3 | 4 | Support Structure Details |
| H-2-120452 | 4 | 4 | Support Structure Details |
| H-2-120460 | 1 | 3 | Pour Turntable Dimensional Record Drawing |
| H-2-120460 | 2 | 3 | Pour Turntable Dimensional Record Drawing |
| H-2-120460 | 3 | 3 | Pour Turntable Dimensional Record Drawing |
| H-2-120568 | 1 | 1 | Mechanical Connector Housing Assembly |

| DRAWING NUMBER | SHEET | OF | TITLE |
|----------------|-------|----|--|
| H-2-122425 | 1 | 2 | Electrical General Notes Symbols and Details |
| H-2-122425 | 2 | 2 | Electrical General Notes Symbols and Details |
| H-2-122426 | 1 | 1 | Electrical Pour & Drain Turntables Block Diagram |
| H-2-122427 | 3 | 4 | Electrical Connection Diagram TU-130-001 |
| H-2-122427 | 4 | 4 | Electrical Connection Diagram TU-130-001 |

**ATTACHMENT B
RELATED DRAWINGS**

| DRAWING NUMBER | TITLE |
|----------------|---|
| H-2-120052 | Melter Assembly |
| H-2-120368 | Drain Turntable Assembly |
| H-2-120368 | Drain Turntable Assembly |
| H-2-120550 | Track & Catch Pan Assembly Parts List & Notes |
| H-2-120562 | Power Cable Reel Assembly |
| H-2-120563 | Power Cable Reel Parts List and Notes |
| H-2-120564 | Instrumentation Cable Reel Assembly |
| H-2-120565 | Cable Reels Support Frame Weldment |
| H-2-120414 | Pour Spout Bellows Assembly |
| W747391 | Canister Assembly |

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U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

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Fluor Contract 8457

SECTION 14602
DRAIN TURNTABLE
B-595-P-P06B-14602

APPROVED FOR CONSTRUCTION

REVISION 0
ISSUE DATE 4-6-93

| | | | | |
|---------------|-----|-------------|----|-------------|
| WAPA | YES | <u> </u> | NO | <u>X</u> |
| QUALITY LEVEL | I | <u> </u> | II | <u>X</u> |
| SAFETY CLASS | 1 | <u> </u> | 2 | <u> </u> |
| | | | 3 | <u>X</u> |
| | | | 4 | <u> </u> |

ORIGINATOR:

CHECKER:

N. J. Chatelier 03/29/93
N. J. Chatelier, Mechanical Engineer Date

D. A. Buzzelli 3-29-93
D. A. Buzzelli, Lead Disc. Checker Date

APPROVED BY:

C. J. Divona
C. J. Divona Lead Discipline Engineer

3/29/93
Date

SECTION 14602
DRAIN TURNTABLE
B-595-P-P06B-14602

TABLE OF CONTENTS

| <u>PART</u> | | <u>PAGE</u> |
|---------------|--|-------------|
| PART 1 | GENERAL | 1 |
| 1.1 | SUMMARY | 1 |
| 1.2 | REFERENCES | 1 |
| 1.3 | RELATED REQUIREMENTS | 2 |
| 1.4 | DEFINITIONS | 3 |
| 1.5 | SYSTEM DESCRIPTION | 3 |
| 1.6 | SUBMITTALS | 5 |
| 1.7 | CLASSIFICATION OF SYSTEMS AND COMPONENTS | 6 |
| 1.8 | PROJECT OR SITE ENVIRONMENTAL CONDITIONS | 6 |
| PART 2 | PRODUCTS | 6 |
| 2.1 | MATERIALS AND EQUIPMENT | 6 |
| 2.2 | FABRICATION AND MANUFACTURE | 10 |
| 2.3 | INSPECTION AND DIMENSIONAL RECORDS | 13 |
| 2.4 | TESTING | 15 |
| PART 3 | EXECUTION | 18 |

ATTACHMENTS

| <u>ATTACHMENT</u> | <u>TITLE</u> |
|-------------------|-------------------|
| A | CONTRACT DRAWINGS |
| B | RELATED DRAWINGS |

**SECTION 14602
DRAIN TURNTABLE**

PART 1 GENERAL

1.1 SUMMARY

This specification section covers the technical requirements for the fabrication, inspection and testing of a Drain Turntable (DTT).

1.2 REFERENCES

The publications listed below form a part of this specification section to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN GEAR MANUFACTURING ASSOCIATION (AGMA)

AGMA 420.04 1978 Speed Reducer and Gear Drives

**AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
and/or
AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)**

ANSI/ASME B46.1 1985 Surface Texture (Surface Roughness,
Waviness, and Lay)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A193/A193M 1990 (Rev. A) Standard Specification for
Alloy-Steel and Stainless Steel Bolting
Materials for High-Temperature Service

ASTM A194/A194M 1990 (Rev. A) Standard Specification for
Carbon and Alloy Steel Nuts for Bolts for
High-Pressure and High-Temperature
Service

ASTM A240 1991 (Rev. A) Standard Specification for
Heat-Resisting Chromium and Chromium-
Nickel Stainless Steel Plate, Sheet, and
Strip for Pressure Vessels

ASTM A276 1990 (Rev. A) Standard Specification for
Stainless and Heat-Resisting Steel Bars
and Shapes

ASTM A312/A312M 1991 (Rev. A) Standard Specification for
Seamless and Welded Austenitic Stainless
Steel Pipe

ASTM A480/A480M 1991 (Rev. A) General Requirements for
Flat Rolled Stainless and Heat-Resisting
Steel Plate, Sheet, and Strip

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)
Boiler and Pressure Vessel Code

ASME Section IX 1989 Welding and Brazing Qualifications

ANTI-FRICTION BEARING MANUFACTURERS ASSOCIATION (AFBMA)

AFBMA 9 1990 Load Ratings and Fatigue Life for
Ball Bearings

AFBMA 11 1990 Load Ratings and Fatigue Life for
Roller Bearings

AFBMA 20 1977 Metric Ball and Roller Bearings
Conforming to Basic Boundary Plans

AFBMA 21.2 1978 Roller, Ball, and Thrust Bearings

OFFICE OF FEDERAL SUPPLY AND SERVICES

QQ-P-35C Passivation Treatments for Corrosion
Resistant Steel

STEEL STRUCTURES PAINTING COUNCIL (SSPC)

SSPC PA-2 1982 Paint Application Specification
Number 2, Measurement of Dry Paint
Thickness with Magnetic Gauges

SSPC SP-10 1989 Surface Preparation Specification
Number 10, Near-White Blast Cleaning

1.3 RELATED REQUIREMENTS

Specification Section 01730 Operation and Maintenance Data

Specification Section 05060 Welding Structural

Specification Section 13252 Precautions for Fabrication,
Handling and Storage of Stainless
Steel and Nickel Alloys

Specification Section 14603 Cable Reel Assembly

| | |
|-----------------------------|--|
| Specification Section 14604 | Track and Catch Pan Assembly |
| Specification Section 15196 | Identification and Tagging Methods for Mechanical Equipment |
| Specification Section 16120 | Soldering - Electrical |
| Specification Section 16151 | Motors - Induction for Radioactive Service |
| Specification Section 16610 | Electrical Requirements for Packaged Mechanical Equipment |
| Specification Section 17857 | Local Control Panels for Pour and Drain Turntables |
| Specification Section 17886 | Instruments Furnished with Mechanical Equipment Load Cell Signal Conditioner - Pour and Drain Turntables |
| Specification Section 17908 | Instruments Furnished with Mechanical Equipment Pour and Drain Turntables |

CONTRACT DRAWINGS

Drawings as listed in Attachment A.

RELATED DRAWINGS

Drawings as listed in Attachment B.

1.4 DEFINITIONS

| | | |
|------|---|--------------------------------|
| ATP | - | Acceptance Test Procedure |
| CMTR | - | Certified Material Test Report |
| DTT | - | Drain Turntable |
| FAT | - | Factory Acceptance Test |
| NDE | - | Nondestructive Examination |
| PT | - | Liquid Penetrant Examination |
| PTT | - | Pour Turntable |
| TID | - | Total Integrated Dose |

1.5 SYSTEM DESCRIPTION

In the Melter Cell, highly-radioactive liquid wastes are melted in a refractory-lined steel vessel at a temperature of 2000°F. During normal operations the glass melt exits the pour spout into portable stainless steel canisters placed on the Pour Turntable (PTT).

The Drain Turntable (DTT) is located under the melter drain valve. It is intended to be used only when the melter must be drained prior to replacement. The melter pour spout is stopped and the drain valve is opened to allow melt to flow into stainless steel canisters positioned on the DTT. These canisters are positioned over a weigh system. The weigh system uses a flexure beam bearing against a load cell designed such that it is positioned at a sufficient distance from the thermally-hot canister. The transducer package subassembly is shielded from heat and radiation, yet is accessible for remote replacement. The instrumentation signals for the weigh system load cell are transmitted through the instrumentation cable reel.

The DTT will be stationed on tracks (part of the Track and Catch Pan Assembly, RA-130-009 and -010, Specification Section 14604) which extend under the melter. During the filling of canisters the glass level will be monitored by a turntable-mounted weighing system and an external gamma ray detection system. DTT rotation is performed by a gear train, which drives a spider drive. Electrical power to drive the DTT and positioning and weighing instrumentation will be provided by cable connected through the cable reel assembly (Specification Section 14603) mounted on a support frame at the south end of the tracks. When the melter is completely drained, the pour turntable will be moved south on the tracks to a position clear of the melter. The DTT (with five canisters) can then be driven out until it is also clear of the melter. In the event of a drive system power failure, the turntables may be moved out from under the melter by a steel cable hooked to the overhead crane.

All canisters, assemblies and subassemblies are designed to be removed or replaced by a remotely-operated impact wrench and overhead crane. Required electrical power is supplied via lower electrical connectors and cable reels.

1.5.1 Turntable Cart Drive

The turntable cart drive wheels are connected through an electric clutch to a variable speed reversible 3/4 hp motor.

At high speed, the 1750 rpm motor drives a 535:1 gear reducer which drives the turntable assembly along the track at .5 in/sec. At a point approximately 9 inches from the end stop, a limit switch on the turntable contacts the end stop housing which reduces the motor speed to 175 rpm and reduces the travel speed .05 in/sec. As the adjustable stop contacts the fixed end stop on the track, a second limit switch shuts off the drive motor.

1.5.2 Turntable Spider Drive

The turntable contains a set of remoteable dollies and canisters which travel on two concentric machined rails mounted to the turntable frame. The dollies and canisters are driven by a variable speed, 3/4 hp reversible motor through a gear reducer and drive shaft. At high speed the 1750 rpm motor drives the 1167:1 gear reducer to rotate the dollies and canisters at 1/4 rpm, corresponding to a linear speed of .94 in/sec. At a point approximately 9 inches away from the pour spout centerline a limit switch is triggered to reduce the motor down to 175 rpm, which reduces the canister speed to .094 in/sec. As the canister approaches the pour spout, the trigger trips another limit switch which shuts off the motor.

1.6 SUBMITTALS

Submit the following in accordance with the Vendor Drawing and Data Requirements section of the Order/Subcontract.

- 1.6.1 Operation and Maintenance Data in accordance with Specification Section 01730.
- 1.6.2 Handling, shipping and storage procedures shall be submitted for Buyer review.
- 1.6.3 Acceptance Test Procedure (ATP) and checklist shall be submitted for Buyer approval in accordance with Paragraph 2.4.3.1.
- 1.6.4 Seller's Material Control Procedure shall be submitted for Buyer review in accordance with Paragraph 2.1.2.2.
- 1.6.5 Detailed procedure for Final Dimensional Check shall be submitted for Buyer approval in accordance with Paragraph 2.3.2.2.
- 1.6.6 Interchangeability Dimensional Record Drawing shall be submitted for Buyer review in accordance with Paragraphs 2.2.1 and 2.3.2.1.
- 1.6.7 Certified Material Test Reports (CMTRs) shall be submitted for Buyer review in accordance with Paragraph 2.1.4.1.
- 1.6.8 Weld Repair Procedure shall be submitted for Buyer approval in accordance with Paragraph 2.2.2.1.
- 1.6.9 Nondestructive Examination (NDE) procedure shall be submitted for Buyer review in accordance with Paragraph 2.3.1.1.
- 1.6.10 Test reports and inspection results shall be submitted for Buyer approval in accordance with Paragraphs 2.1.4.1, 2.1.8.1, 2.3.1.1, 2.3.2.1 and 2.4.1.3.

- 1.6.11 Support facilities descriptions shall be submitted for Buyer approval in accordance with Paragraph 2.3.2.3.
- 1.6.12 Dimensional Records shall be submitted for Buyer approval in accordance with Paragraph 2.3.2.1.
- 1.6.13 Descriptions of mixing, preparation and forming methodology to be used in installing insulation materials shall be submitted for Buyer review in accordance with Paragraph 2.2.7.
- 1.6.14 A record of heat treatment for all applicable hardware shall be submitted for Buyer review.
- 1.6.15 A procedure to determine defects greater than 0.012" shall be submitted for Buyer approval.

1.7 CLASSIFICATION OF SYSTEMS AND COMPONENTS

(Not Used)

1.8 PROJECT OR SITE ENVIRONMENTAL CONDITIONS

1.8.1 Climatic and Geographic Site Conditions

- A. Site Elevation 714 feet above sea level
- B. Barometric Pressure 14.3 psia

1.8.2 Operating Environment

- A. Normal Temperature Range 60°F to 104°F
- B. Design Basis Temperature 104°F
- C. Relative Humidity Not controlled
- D. Radiation Level 3×10^8 rads (TID, 10 years)

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

This specification section is in reference to the following equipment:

| <u>Equipment No.</u> | <u>Equipment Name</u> |
|----------------------|-----------------------|
| RA-130-002 | Drain Turntable |

2.1.1 Materials

Components used in fabrication shall be in accordance with the Contract Drawings. Fabrication materials shall be as follows, unless otherwise noted in drawings.

2.1.1.1 All stainless steel plate, sheet and strip shall be in accordance with ASTM A240, Type 304L, hot rolled, annealed and pickled. Blasting as a descaling method shall not be permitted.

2.1.1.2 All stainless steel bars and shapes shall be in accordance with ASTM A276, Type 304L, Condition A and Class C.

2.1.1.3 Stainless steel structural bolts shall be in accordance with ASTM A193/A193M, Grade B6, Type 304.

2.1.1.4 Stainless steel structural nuts shall be in accordance with ASTM A194/A194M, Grade 8M or equal.

2.1.1.5 Stainless steel pipe and tubing shall be in accordance with ASTM A312/A312M.

2.1.1.6 The turntable speed reducer and gear train shall both be in accordance with AGMA 420.04.

2.1.1.7 The drive train bearings shall be in accordance with AFBMA 9, AFBMA 11, AFBMA 20 and AFBMA 21.2 as applicable.

2.1.1.8 Electrical materials and equipment shall be in accordance with Specification Sections 16610 and 16120.

2.1.2 Material Contamination

2.1.2.1 Specification Section 13252 provides requirements for materials used in contact with austenitic stainless steel and non-ferrous metals. This specification section applies to all materials.

2.1.2.2 Upon completion of fabrication, examination and tests by Seller the metal surfaces shall be in accordance with the requirements of Specification Section 13252. Seller's Material Control Procedures shall describe the actions to be taken in the event of material contamination. They shall also address the cleaning and protection of materials as required.

2.1.3 Surface Finish

2.1.3.1 Unless otherwise specified on Contract Drawings, surface finish for various material forms shall be as follows: Plates shall be finished in accordance with ASTM A480/A480M Section 10, Paragraph 10.1.2, hot-rolled, annealed and pickled No. 1 finish. A shot or grit-blasted surface is not acceptable. Sheets shall be finished

in accordance with ASTM A480/A480M Section 8, Paragraph 8.1.2, No. 2D finish. Strips shall be finished in accordance with ASTM A480/A480M Section 9, Paragraph 8.1.1, No. 2 finish.

- 2.1.3.2 Unless otherwise specified on the Contract Drawings, machined surfaces shall have a 125AA finish in accordance with ANSI/ASME B46.1.
- 2.1.3.3 No arc strikes, nicks, gouges or other surface defects are permitted. Defects greater than .012 inch in depth shall be repaired by welding and grinding to restore original surface contour. Defects of lesser depth shall be removed by grinding or polishing. Grinding shall be performed using 125 grit or finer abrasive wheels. No defects or grinding marks deeper than those left by a 125 grit abrasive wheel are permitted.
- 2.1.4 Material Control
 - 2.1.4.1 One (1) copy of Certified Material Test Reports (CMTRs) shall be provided for all material and submitted for Buyer review.
- 2.1.5 Equipment Provided by Seller
 - 2.1.5.1 The equipment to be furnished shall be built to print and in accordance with the Related Requirements listed in Paragraph 1.3, the Contract Drawings and this specification section. Seller's work includes: furnish materials, manufacture, assemble, test and deliver the following components in accordance both with the Contract Drawings and this specification section:
 - A. A drain turntable assembly complete with cart drive, turntable drive, canister dollies, canister guides and canister weighing system.
 - B. All wiring, pull and junction boxes, electrical hardware, conduit and conduit installation as shown on the Contract Drawings and in accordance with Specification Section 16610.
 - C. Any special tools and accessories required for installation or operation.
 - D. Seller shall also provide facilities to measure and test the assembled turntable system as described in Paragraphs 2.3 and 2.4 of this specification section, including framework and support for dummy drain spout structure.
- 2.1.6 Equipment provided by Buyer
 - 2.1.6.1 For testing:

Five test canisters (dummy fill not included).

2.1.6.2 For incorporation into component fabrication:

- A. Upper and lower electrical connectors (PUREX connectors).
- B. Internal electrical components for the electrical upper and lower connectors.

2.1.7 Contract Drawings

Buyer's Contract Drawings for the DTT assembly and components have dimensional requirements that have been established to meet definite interface points. It is imperative that these interface dimensions be achieved for operational purposes. Drawing H-2-120368 shows the dimensional interface for the DTT.

2.1.8 Design Features, Considerations

2.1.8.1 Remoteability

Once radioactive wastes are introduced into the Melter Cell, manned entrance will no longer be possible for operation or maintenance. Therefore, all components are designed to be remotely removable (hereafter referred to as "remoteable") by means of an overhead crane into less-radioactive areas for decontamination and maintenance. Furthermore, to the extent possible, assemblies are designed with remoteable subassembly modules to allow ready replacement of components without the necessity of removing and decontaminating the entire assembly. The following turntable subassemblies shall be remoteable:

Drain Turntable

Spider Drive Motor Assembly
Cart Drive Assembly
Canister Guide Weldments
Canister Dolly Assemblies
Fixed Stop Assembly
Load Cell Assembly
Limit Switch Assembly

Each of the above subassemblies incorporates a lifting bail which can be engaged with the overhead crane hook or, in the case of heavy components, with lifting trunnions which can be engaged with a special lifting yoke suspended from the crane hook.

When suspended, all remoteable assemblies and subassemblies must be level within 2 degrees by proper placement of lift points and/or by counterweighting to assure proper engagement with alignment dowels and studs, except as noted on Contract Drawings.

Seller shall demonstrate and document the remoteability and balance of all applicable components in accordance with Paragraph 2.4.3.

- 2.1.8.2 All purchased rotating equipment (motors, gear boxes, bearings, etc.) shall be of a design that can be lubricated with CHEVRON SRI-NLGI2 grease or equal. Seller shall clearly indicate the appropriate lubricant level on the equipment. These items shall be cleaned and repacked with the above-mentioned lubricant at assembly prior to installation at the facility.

2.2 FABRICATION AND MANUFACTURE

The drain turntable and components shall be fabricated in accordance both with this specification section and DTT Assembly Drawing H-2-120368.

2.2.1 Interchangeability

Each remoteable assembly must be interchangeable with spare assemblies. This requires that all mounting surfaces be precisely located in three planes.

To ensure interchangeability of subsequent assemblies the close tolerance requirements shown in Contract Drawings shall be strictly adhered to. Seller must conduct all close tolerance work with respect to established datum references. Work shall be performed under controlled temperature conditions as deemed necessary in order to achieve and maintain specified dimensions and tolerances. The reference temperature for dimensions and tolerances is 68°F. Seller shall complete the Dimensional Record Drawing H-2-120372 and submit for Buyer review.

2.2.2 Welding

All welding and NDE shall be performed in accordance with Specification Section 05060.

2.2.2.1 Repairs

Seller shall prepare and submit a complete repair procedure for Buyer approval. At minimum, the repair procedure shall include:

- A. Type and extent of repairable defects.
- B. Defect removal methods. These shall include NDE methods to assure complete defect removal.
- C. Repair method. This shall include weld preparation, treatment and reference to ASME Section IX qualified weld procedures.

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2.2.2.2 Fabrication of all components and assemblies shall minimize crevices, pockets, absorbent materials or similar voids where contaminants can be trapped.

2.2.2.3 All stainless steel surfaces shall be passivated in accordance with Federal Specification QQ-P-35C.

2.2.3 Coatings

2.2.3.1 Carbon Steel Surfaces

Carbon steel surfaces which will be exposed to cell environment shall be prepared for painting in accordance with SSPC SP-10. Primer shall be an inorganic zinc-rich primer (Ameron Dimetecote 9 or equal), one coat, with a total dry film thickness of 2.5 mils plus or minus .5 mils and a minimum of 6 grams zinc per square foot of dried film. Finish coat shall be a high-build polyamide epoxy paint (Amercoat 66 or equal), two coats, with total dry film thickness of 10 mils plus or minus .5 mils. The total system dry film thickness of primer and finish coat shall be 12.5 mils plus or minus 1.0 mils. Surface color shall be white. Paint shall be applied in accordance with paint manufacturer's recommended methods. Typical components to be painted are motors, gear reducers, housings and other components requiring surface protection.

Contact surfaces of gears, wheels, rails and bearings shall not be painted.

2.2.3.2 Stainless Steel Surfaces

Stainless steel surfaces shall be painted for the purpose of identification only.

2.2.3.3 Inspection

Dry film thickness measurements shall be verified with a calibrated magnetic thickness gauge (Nordson "Mikrotest" or equal) and shall be in accordance with SSPC PA-2.

2.2.3.4 Defects

Defects or damaged areas detected during shop assembly, handling, testing and disassembly shall be repaired. The surface cleanliness and profile shall be restored to meet the specified surface preparation requirements. Precautions shall be taken to protect adjacent coated areas from damage by cleaning. The periphery of the damaged area shall be feathered. The use of vacuum blast type equipment, needle guns and peening wheels is permitted to restore profile.

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2.2.3.5 Seller shall provide one gallon each of primer and finish paint for field touch-up.

2.2.4 Nameplate

Each item of equipment shall be fitted with a stainless steel nameplate securely attached by pins of a similar material. The nameplate shall be in accordance with Specification Section 15196, Paragraph 2.2.2, Type 6.

2.2.5 Instrumentation and Controls

2.2.5.1 All instrumentation and controls shall be in accordance with Specification Sections 17857, 17886 and 17908.

2.2.6 Electrical Components

Functional requirements of electrical components, instrumentation and definition of Seller/Buyer interfaces are shown in the electrical and instrument diagrams and Contract Drawings (Attachment A).

2.2.6.1 Motors

Seller shall provide electric motors as specified in Specification Section 16151 and the Contract Drawings (Attachment A). Electric motor data sheet of Specification Section 16151 shall be completed by Seller.

Surface protection of motors and related components shall be in accordance with Paragraph 2.2.3.

2.2.6.2 Wiring and Cabling

Seller shall provide and install all cables, conduit, pull and junction boxes as shown on Contract Drawings and in accordance with Specification Section 16610.

Lower electrical connectors shall be modified, mounted and dimensioned in accordance with the Contract Drawings.

2.2.7 Insulations

The insulations used on the equipment covered by this section are of the molded variety and called out on the Contract Drawings (Attachment A). Seller is to prepare and form the insulation in accordance with manufacturer's recommended methods. At least one month of shelf life shall remain on the product at the time of installation into the applicable equipment. Seller shall submit a description of mixing, preparation and forming methodology to be used in installing this insulation into the equipment.

2.3 INSPECTION AND DIMENSIONAL RECORDS

2.3.1 Seller shall perform an inspection of all equipment supplied to verify conformance to this specification section. Buyer reserves the right to witness any or all inspections or other activities affecting this specification section and requires a written notice prior to initiation of these inspection-related activities.

2.3.1.1 Welding Inspection and Criteria

Lifting lugs, structural members and full penetration welds shall be surface examined using nondestructive examination (NDE).
Inspection methods are:

100 % visual and
100 % Liquid Penetrant Examination (PT)

A final surface examination shall be performed after completion of the proof test. Buyer is to review examination results and reports in detail.

Acceptance criteria for NDE shall be in accordance with Specification Section 05060. Buyer is to review Seller's NDE procedures, material certification and reports to assure accuracy.

2.3.2 Dimensional Records

2.3.2.1 Seller shall perform a complete dimensional inspection of the DTT. A mylar copy of Drawing H-2-120372 shall be provided by the Buyer for the Seller to use for documentation and return.

Seller shall record, on the mylar copy, the actual as-built dimensions required by the drawing with respect to datums, dowel pins or holes identified. Where duplicate equipment pieces are involved, a separate serial number shall be recorded on both the piece nameplate and tracing.

X, Y and Z coordinates specified on Drawing H-2-120372 shall be measured with the drain turntable placed on the tracks supplied with the Track and Catch Pan Assembly defined in Specification Section 14604.

Dimensional inspection is to be made after proof load tests are completed as described in Paragraph 2.4.3.4.

2.3.2.2 Seller shall submit detailed final dimensional check procedures for Buyer approval. These shall include:

A. Methods of measurement applicable to specific components or assemblies.

- B. Type of measuring device used.
- C. Methods, frequency and verification of calibration for the precision measurement devices.

2.3.2.3 Facilities Required for Dimensional Measurements

Seller shall provide an enclosed or partitioned area in which to make dimensional measurements of the assembled DTT. Within this area there shall be no interference by any other manufacturing operation such as arc welding or equipment movement. This area will provide a 7-foot clear walkway around the equipment. This area may be the same as the test area described in Paragraph 2.4.2 but must be large enough to accommodate all equipment required for the dimensional inspection. The area must be equipped with a seven-day temperature recorder provided by the Seller to document ambient temperature control. The recorder shall have a current calibration tag. For the purpose of measurement orientation, operation and testing the position on the turntable which has the receptacle for the emergency tow cable shall be considered the South End or 6 o'clock position. The area shall be temperature controlled to $68^{\circ}\text{F} \pm 5^{\circ}\text{F}$ throughout the time measurements are made. Adequate lighting of at least 100 foot-candle average shall be provided. An overhead crane will be required. The rated lifting capacity of this crane shall be no less than 20 tons. The crane hook shall clear the height of 39'-2" from the floor.

Seller shall supply rigid supports for optical transits and levels. These supports shall be free-standing, not touching the turntable or track system. Substantial platforms, ladders, stairs, handrails, etc. which meet OSHA standards shall be provided. Seller shall submit drawings and/or equipment specifications for approval of:

- A. Measurement enclosure area.
- B. Temporary rails/tracks to support the DTT.
- C. Optical instrument supports.
- D. Platforms, ladders and handrails.

2.3.3 Buyer Witnessing of Dimensional Checks

Buyer shall be notified in advance of the date when final dimensional measurements are to be made. Buyer reserves the right to witness Seller's final dimensional measurements.

2.4 TESTING

2.4.1 General

2.4.1.1 A Factory Acceptance Test (FAT) shall be conducted in accordance with this specification section and applicable codes and standards at Seller's plant prior to delivery. This test shall demonstrate satisfactory operation of all equipment, control logic and functional design under simulated loading conditions. All tests shall be performed at ambient temperature. Heating of canisters or their content is not required.

2.4.1.2 Except for the equipment listed in Paragraph 2.1.6, Seller shall provide all equipment, facilities and labor necessary to meet the requirements of the FATs.

2.4.1.3 Seller shall maintain records of all test data and those observations pertinent to equipment performance. A copy of these records shall be provided for Buyer review.

2.4.1.4 Buyer shall be informed in advance of date that all factory tests are to be conducted. Buyer reserves the right to attend and witness all factory tests.

2.4.2 Special Facilities Required for Testing

2.4.2.1 A test area of sufficient size to assemble and operate all equipment covered by this specification section.

2.4.2.2 The structural framework to support a simulated (dummy) flange of the melter drain spout assembly to demonstrate the dimensional line-up of the canisters in the drain position.

2.4.2.3 An overhead crane shall be available for testing. Rated lifting capacity of the crane shall be no less than 20 tons. A 1/2 ton electric hoist will also be required.

2.4.3 Acceptance Test Procedure

2.4.3.1 An Acceptance Test Procedure (ATP) shall be submitted for Buyer approval. The ATP shall cover, as a minimum, all activities identified below plus any other activities determined by Seller as being significant to the overall performance of the equipment. The ATP shall include demonstration of the functionality and remoteability of the DTT and its subassemblies. Seller shall submit a checklist for approval prior to beginning the tests containing the tests to be performed and identifying all instruments and special equipment to be used and measurements to be made. The tests shall include but not be limited to the following:

- A. Initial set-up of the DTT on the rail/track system.
- B. Test of lifting trunnions to verify mechanical integrity.
- C. Verification of interface dimensions.
- D. Demonstration/functionality of DTT cart drive and rotational drive position limit switches.
- E. Accuracy of the canister weighing system.
- F. Remoteability of turntable sub-assemblies.
- G. Record the weight of the fully-assembled DTT on Dimensional Record Drawing H-2-120372.

2.4.3.2 The following test sequence is intended as a guide to enable Seller to plan for the equipment and services to support the set-up and tests. The set-up and test area may be the same as outlined in Paragraphs 2.3.2.3 and 2.4.2.

- A. Test the lifting trunnions for mechanical integrity as outlined in Paragraph 2.4.3.4.
- B. Verify the DTT for compliance of interface dimensions, including electrical connectors (PUREX type).
- C. Test cart drive and limit switches for accuracy at predetermined locations at both ends on the rail. Repeat this test 10 times.
- D. Check cart drive motor for temperature rise and full load current.
- E. Return the DTT to predetermined location near drain spout dummy flange.
- F. Demonstrate accuracy of the spider drive and limit switches. Repeat this test 20 times at 90 degree increments.
- G. Verify temperature rise and full load current of spider drive motor.
- H. Weigh the fully-assembled DTT.

2.4.3.3 Turntable and Weigh Scale Testing with Canisters in Place

The following tests require the availability of a total of five (5) canisters of a known net weight. Four (4) of the canisters shall be preloaded/filled to simulate various operating weights

(lead shot or equal). Canisters shall have the following fill weights:

Canister No. 1 - No fill weight (empty)
Canister No. 2 - 2000 lbs. fill weight
Canister No. 3 - 3000 lbs. fill weight
Canister No. 4 - 3800 lbs. fill weight
Canister No. 5 - 4360 lbs. fill weight

The weigh scale should reflect the correct weight in each case. Glass draining and turntable operation shall be simulated by loading the canisters on the turntable. The emergency tow cable receptacle on the turntable shall be designated as the 6 o'clock position. The canisters shall be loaded on the turntable (one at a time rotating the turntable in a clockwise direction) in such a manner that, on the completion of loading all five canisters, the first canister shall be in the 3 o'clock position.

Canisters shall then be removed one at a time starting with the canister in the 6 o'clock position, and rotating the turntable clockwise until all five canisters are removed.

The entire above sequence of operation shall be repeated eight (8) times.

Verification of dimensional interface of flanges, accuracy of the spider drive, limit switches and weigh scale, along with drive motor temperature rise and full load current shall be completed and documented during these tests.

Verify remoteability of each component in accordance with Paragraph 2.1.8.1.

2.4.3.4 Trunnion Proof Test

A trunnion proof test shall be performed. The test shall be based on lifting a load that is 150% greater than the weight of the DTT assembly without the canisters.

During each lift test the DTT shall be suspended for 10 minutes at a lift height of not less than 12 inches above the rails. This test shall be repeated 10 times with a waiting period of two (2) minutes between tests. After completion of the lifting cycle an NDE inspection/evaluation shall be performed in accordance with Paragraph 2.3.1.1. The visual inspection shall include the verification for any deformation/stress cracking on the lifting trunnion and its basic load-bearing members.

2.4.3.5 Acceptance Criteria

The criteria for acceptance of the equipment by the Buyer from the Seller is as follows:

- A. Satisfactory and repeatable operation of the turntable cart drive as demonstrated in Paragraph 2.4.3.2.
- B. Satisfactory and repeatable operation of the turntable spider drive as demonstrated in Paragraphs 2.4.3.2 and 2.4.3.3.
- C. The ability of all remoteable assemblies defined in Paragraph 2.1.8.1 to functionally assemble over their dowel pins and studs, mate up properly with their lower connector interface, and balance when lifted by the bail within 2 degrees of vertical (or horizontal).
- D. The ability of the entire turntable assembly complete with remoteable assemblies installed to balance when lifted by the trunnions within 2 degrees of vertical.
- E. Satisfactory, repeatable and complete functionality of all electrical interfaces (electrical nozzles), electrically operated motors and all limit switches.
- F. Satisfactory and repeatable operation of the weigh scale and load cell as demonstrated in Paragraph 2.4.3.3.
- G. Satisfactory completion of proof load test and subsequent NDE inspection as described in Paragraph 2.4.3.4.

PART 3 EXECUTION

(Not Used)

END OF SECTION

**ATTACHMENT A
CONTRACT DRAWINGS**

| DRAWING NUMBER | SHEET | OF | TITLE |
|----------------|-------|----|--|
| H-2-120368 | 1 | 20 | Drain Turntable Parts List and Notes |
| H-2-120368 | 2 | 20 | Drain Turntable Assembly |
| H-2-120368 | 3 | 20 | Drain Turntable Assembly |
| H-2-120368 | 4 | 20 | Drain Turntable Assembly |
| H-2-120368 | 5 | 20 | Drain Turntable Assembly |
| H-2-120368 | 6 | 20 | Drain Turntable Assembly |
| H-2-120368 | 7 | 20 | Drain Turntable Assembly |
| H-2-120368 | 8 | 20 | Drain Turntable Assembly |
| H-2-120368 | 9 | 20 | Drain Turntable Assembly |
| H-2-120368 | 10 | 20 | Drive Arm Assembly & Details |
| H-2-120368 | 11 | 20 | Wheel Cover Assembly & Details |
| H-2-120368 | 12 | 20 | Wheel Cover Assembly & Details |
| H-2-120368 | 13 | 20 | Base Weldment |
| H-2-120368 | 14 | 20 | Drain Turntable Details |
| H-2-120368 | 15 | 20 | Enclosure Mtg Bracket Assembly & Details |
| H-2-120368 | 16 | 20 | Drain Turntable Details |
| H-2-120368 | 17 | 20 | Drain Turntable Details |
| H-2-120368 | 18 | 20 | Drain Turntable Details |
| H-2-120368 | 19 | 20 | Limit Switch Weldment |
| H-2-120368 | 20 | 20 | Drain Turntable Sections & Views |
| H-2-120369 | 1 | 2 | Canister Guide Weldment Parts List & Notes |
| H-2-120369 | 2 | 2 | Canister Guide Details |
| H-2-120370 | 1 | 8 | Canister Dolly Assembly Parts List & Notes |
| H-2-120370 | 2 | 8 | Canister Dolly Weldment |
| H-2-120370 | 3 | 8 | Lifting Trunnion Weldment |
| H-2-120370 | 4 | 8 | Canister Dolly Top Plate Detail |
| H-2-120370 | 5 | 8 | Canister Dolly Wheel Mounting Detail |
| H-2-120370 | 6 | 8 | Canister Dolly Cover Detail |
| H-2-120370 | 7 | 8 | Lifting Trunnion Details |
| H-2-120370 | 8 | 8 | Canister Dolly Details |
| H-2-120371 | 1 | 4 | Dolly Rails Outer Rail |
| H-2-120371 | 2 | 4 | Dolly Rails Inner Rail |
| H-2-120371 | 3 | 4 | Dolly Rails Outer Rails |
| H-2-120371 | 4 | 4 | Dolly Rails Outer Rail |
| H-2-120372 | 1 | 3 | Drain Turntable Dimensional Record Drawing |
| H-2-120372 | 2 | 3 | Drain Turntable Dimensional Record Drawing |
| H-2-120372 | 3 | 3 | Drain Turntable Dimensional Record Drawing |

| DRAWING NUMBER | SHEET | OF | TITLE |
|----------------|-------|----|---|
| H-2-120374 | 1 | 4 | Carousel Assembly |
| H-2-120374 | 2 | 4 | Carousel Assembly |
| H-2-120374 | 3 | 4 | Carousel Details |
| H-2-120374 | 4 | 4 | Carousel Sub-Weldment |
| H-2-120375 | 1 | 2 | Canister Lid Closure Sprt Assy Parts List & Notes |
| H-2-120375 | 2 | 2 | Canister Lid Closure Support Det |
| H-2-120376 | 1 | 2 | Lifting Trunnion Weldment Parts List & Notes |
| H-2-120376 | 2 | 2 | Lifting Trunnion Details |
| H-2-120377 | 1 | 5 | Cart Dr Mot Assy Parts List & Notes |
| H-2-120377 | 2 | 5 | Cart Drive Motor Weldment |
| H-2-120377 | 3 | 5 | Cart Drive Motor Weldment Details |
| H-2-120377 | 4 | 5 | Cart Drive Motor Splash Guard Assy |
| H-2-120377 | 5 | 5 | Cart Drive Motor Splash Guard Det |
| H-2-120378 | 1 | 7 | Spider Drive Assembly Part List & Notes |
| H-2-120378 | 2 | 7 | Weldment Drive Base & Sub-Weldment |
| H-2-120378 | 3 | 7 | Spider Drive Details |
| H-2-120378 | 4 | 7 | Spider Drive Rails |
| H-2-120378 | 5 | 7 | Spider Drive Details |
| H-2-120378 | 6 | 7 | Spider Drive Details |
| H-2-120378 | 7 | 7 | Spider Drive Details |
| H-2-120379 | 1 | 3 | Drain Turntable Cart Assy Parts List & Notes |
| H-2-120379 | 2 | 3 | Drain Turntable Cart Top View |
| H-2-120379 | 3 | 3 | Drain Turntable Cart Side View |
| H-2-120380 | 1 | 2 | Cart Spider Drive Support Assembly |
| H-2-120380 | 2 | 2 | Cart Spider Drive Support Details |
| H-2-120381 | 1 | 23 | Cart Base Parts List & Notes |
| H-2-120381 | 2 | 23 | Cart Base Assembly |
| H-2-120381 | 3 | 23 | Cart Base Assembly |
| H-2-120381 | 4 | 23 | Cart Base Assembly |
| H-2-120381 | 5 | 23 | Cart Base Weldment |
| H-2-120381 | 6 | 23 | Cart Base Weldment |
| H-2-120381 | 7 | 23 | Cart Base Machining |
| H-2-120381 | 8 | 23 | Cart Base Beam Weldment |
| H-2-120381 | 9 | 23 | Cart Base Beam Weldment |
| H-2-120381 | 10 | 23 | Cart Base Weldment |
| H-2-120381 | 11 | 23 | Cart Base Details |
| H-2-120381 | 12 | 23 | Cart Base Support Rails |
| H-2-120381 | 13 | 23 | Cart Base Support Rails |
| H-2-120381 | 14 | 23 | Cart Base Support Rails |
| H-2-120381 | 15 | 23 | Cart Base Details |

| DRAWING NUMBER | SHEET | OF | TITLE |
|----------------|-------|----|---|
| H-2-120381 | 16 | 23 | Cart Base Details |
| H-2-120381 | 17 | 23 | Cart Base Details |
| H-2-120381 | 18 | 23 | Cart Base Details |
| H-2-120381 | 19 | 23 | Cart Base Details |
| H-2-120381 | 20 | 23 | Cart Base Details |
| H-2-120381 | 21 | 23 | Cart Base Details |
| H-2-120381 | 22 | 23 | Cart Base Details |
| H-2-120381 | 23 | 23 | Cart Base Weldment & Details |
| H-2-120382 | 1 | 3 | Cart Drive Support Assembly Parts List & Notes |
| H-2-120382 | 2 | 3 | Cart Drive Support Details |
| H-2-120382 | 3 | 3 | Cart Drive Support Details |
| H-2-120383 | 1 | 3 | Fixed Stop Assembly Parts List & Notes |
| H-2-120383 | 2 | 3 | Fixed Stop Weldment & Plunger Assembly |
| H-2-120383 | 3 | 3 | Fixed Details |
| H-2-120384 | 1 | 5 | Limit Switch Assembly Parts List & Notes |
| H-2-120384 | 2 | 5 | Limit Switch Parts Details |
| H-2-120384 | 3 | 5 | Limit Switch Assembly Parts Details |
| H-2-120385 | 1 | 12 | Cart Drive Parts List & Notes |
| H-2-120385 | 2 | 12 | Cart Drive Assembly |
| H-2-120385 | 3 | 12 | Cart Drive Splash Guard Wheel Drive Right Side Assembly |
| H-2-120385 | 4 | 12 | Cart Drive Splash Guard Wheel Drive Right Side Details |
| H-2-120385 | 5 | 12 | Cart Drive Splash Guard Wheel Drive Right Side Details |
| H-2-120385 | 6 | 12 | Cart Drive Splash Guard Wheel Drive Left Side Assembly |
| H-2-120385 | 7 | 12 | Cart Drive Splash Guard Wheel Drive Left Side Details |
| H-2-120385 | 8 | 12 | Cart Drive Clutch Coupling Cover and Support |
| H-2-120385 | 9 | 12 | Cart Drive Clutch Coupling Cover Details |
| H-2-120385 | 10 | 12 | Cart Drive Clutch Coupling Support Details |
| H-2-120385 | 11 | 12 | Cart Drive Clutch Coupling Shaft and Spacer Det |
| H-2-120385 | 12 | 12 | Cart Drive Modified Gear Wheel Detail |
| H-2-120386 | 1 | 6 | Spider Dr Mot Assy Parts List & Notes |
| H-2-120386 | 2 | 6 | Spider Drive Motor Weldment |
| H-2-120386 | 3 | 6 | Spider Drive Motor Details |
| H-2-120386 | 4 | 6 | Spider Drive Motor Heat Shield |
| H-2-120386 | 5 | 6 | Spider Drive Motor Heat Shield Details |
| H-2-120386 | 6 | 6 | Spider Drive Motor Heat Shield Details |
| H-2-120388 | 1 | 7 | Conduit & Cable Assembly Group Parts List & Notes |
| H-2-120388 | 2 | 7 | Conduit and Cable Assembly |
| H-2-120388 | 3 | 7 | Conduit and Cable Assembly |
| H-2-120388 | 4 | 7 | Conduit and Cable Assembly |

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| DRAWING NUMBER | SHEET | OF | TITLE |
|----------------|-------|----|---|
| H-2-120388 | 5 | 7 | Conduit and Cable Assembly |
| H-2-120388 | 6 | 7 | Conduit and Cable Assembly |
| H-2-120388 | 7 | 7 | Conduit and Cable Assembly |
| H-2-120390 | 1 | 2 | Support Bracket Weldment and Parts List & Notes |
| H-2-120390 | 2 | 2 | Limit Switch Support Details |
| H-2-120392 | 1 | 4 | Emergency Pull Bar Assembly |
| H-2-120392 | 2 | 4 | Emergency Pull Bar Weldment |
| H-2-120392 | 3 | 4 | Emergency Pull Bar Details |
| H-2-120392 | 4 | 4 | Emergency Pull Bar Lifting Loop |
| H-2-120421 | 1 | 3 | Cart Drive Coupling Assy Parts List & Notes |
| H-2-120421 | 2 | 3 | Cart Drive Coupling Assembly & Details |
| H-2-120421 | 3 | 3 | Cart Drive Coupling Details |
| H-2-120423 | 1 | 1 | Dolly Positioning Gde Assy Parts List & Notes |
| H-2-120424 | 1 | 1 | Structural Weldment Details PI & Notes |
| H-2-120425 | 1 | 3 | Spider Drive Coupling Assy Parts List & Notes |
| H-2-120425 | 2 | 3 | Spider Drive Coupling Details |
| H-2-120425 | 3 | 3 | Spider Drive Coupling |
| H-2-120426 | 1 | 3 | Dolly Wheel Assemblies Parts List & Notes |
| H-2-120426 | 2 | 3 | Dolly Wheel Details |
| H-2-120426 | 3 | 3 | Dolly Wheel Details |
| H-2-120427 | 1 | 4 | Canister Centering Guide Assembly |
| H-2-120427 | 2 | 4 | Canister Centering Guide Assembly |
| H-2-120427 | 3 | 4 | Canister Centering Guide Details |
| H-2-120427 | 4 | 4 | Canister Centering Guide Details |
| H-2-120428 | 1 | 4 | Scale Platform Assembly |
| H-2-120428 | 2 | 4 | Scale Platform Weldment |
| H-2-120428 | 3 | 4 | Scale Platform Rails |
| H-2-120428 | 4 | 4 | Scale Platform Details |
| H-2-120429 | 1 | 11 | Weigh Scale Assembly |
| H-2-120429 | 2 | 11 | Scale Assembly |
| H-2-120429 | 3 | 11 | Scale Assembly Base Weldment |
| H-2-120429 | 4 | 11 | Scale Assembly Base Weldment |
| H-2-120429 | 5 | 11 | Scale Assembly Base Weldment |
| H-2-120429 | 6 | 11 | Scale Assembly Base Weldment |
| H-2-120429 | 7 | 11 | Scale Assembly Base Weldment |
| H-2-120429 | 8 | 11 | Scale Assembly Details |
| H-2-120429 | 9 | 11 | Scale Assembly Details |
| H-2-120429 | 10 | 11 | Scale Assembly Details |
| H-2-120429 | 11 | 11 | Scale Assembly Details |
| H-2-120430 | 1 | 3 | Load Cell Parts List & Notes |

9513336-0867

Rev. 0

| DRAWING NUMBER | SHEET | OF | TITLE |
|----------------|-------|----|---|
| H-2-120430 | 2 | 3 | Load Cell Base Weldment |
| H-2-120430 | 3 | 3 | Load Cell Details Parts List & Notes |
| H-2-120450 | 1 | 2 | Enclosure Assemblies |
| H-2-120450 | 2 | 2 | Enclosure Assemblies Parts List and Notes |
| H-2-120451 | 1 | 1 | Flexible Metal Hose Assy Parts List & Notes |
| H-2-120568 | 1 | 1 | PUREX Connector Lower Housing Assembly |

| DRAWING NUMBER | SHEET | OF | TITLE |
|----------------|-------|----|--|
| H-2-122425 | 1 | 2 | Electrical General Notes Symbols and Details |
| H-2-122425 | 2 | 2 | Electrical General Notes Symbols and Details |
| H-2-122426 | 1 | 1 | Electrical Pour & Drain Turntables Block Diagram |
| H-2-122427 | 1 | 4 | Electrical Connection Diagram TU-130-002 |
| H-2-122427 | 2 | 4 | Electrical Connection Diagram TU-130-002 |

9513336.0868

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Richland, Washington
DOE Contract DE-AC06-86RL10838

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**ATTACHMENT B
RELATED DRAWINGS**

| DRAWING NUMBER | TITLE |
|----------------|---|
| H-2-120052 | Melter Assembly |
| H-2-120302 | Pour Turntable Assembly |
| H-2-120302 | Pour Turntable Assembly |
| H-2-120550 | Track & Catch Pan Assembly Parts List & Notes |
| H-2-120562 | Power Cable Reel Assembly |
| H-2-120563 | Power Cable Reel Parts List and Notes |
| H-2-120564 | Instrumentation Cable Reel Assembly |
| H-2-120565 | Cable Reels Support Frame Weldment |
| H-2-120414 | Pour Spout Bellows Assembly |
| W747391 | Canister Assembly |

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9513336.0869

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SECTION 14603
CABLE REEL ASSEMBLY
B-595-P-P06B-14603

APPROVED FOR CONSTRUCTION

REVISION 0
ISSUE DATE 4-6-93

WAPA YES ☐ NO ☒
QUALITY LEVEL I ☐ II ☒
SAFETY CLASS 1 ☐ 2 ☐ 3 ☒ 4 ☐

ORIGINATOR:

CHECKER:

N. J. Chatelier 03/29/93
N. J. Chatelier, Mechanical Engineer Date

D. A. Buzzelli 3-29-93
D. A. Buzzelli, Lead Disc. Checker Date

APPROVED BY:

C. J. Divora
C. J. Divora Lead Discipline Engineer

3/29/93
Date

SECTION 14603
CABLE REEL ASSEMBLY
B-595-P-P06B-14603

TABLE OF CONTENTS

| <u>PART</u> | | <u>PAGE</u> |
|---------------|--|-------------|
| PART 1 | GENERAL | 1 |
| 1.1 | SUMMARY | 1 |
| 1.2 | REFERENCES | 1 |
| 1.3 | RELATED REQUIREMENTS | 2 |
| 1.4 | DEFINITIONS | 3 |
| 1.5 | SYSTEM DESCRIPTION | 3 |
| 1.6 | SUBMITTALS | 4 |
| 1.7 | CLASSIFICATION OF SYSTEMS AND COMPONENTS | 5 |
| 1.8 | PROJECT OR SITE ENVIRONMENTAL CONDITIONS | 5 |
| PART 2 | PRODUCTS | 5 |
| 2.1 | MATERIALS AND EQUIPMENT | 5 |
| 2.2 | FABRICATION AND MANUFACTURE | 8 |
| 2.3 | INSPECTION AND DIMENSIONAL RECORDS | 10 |
| 2.4 | TESTING | 12 |
| PART 3 | EXECUTION | 14 |

ATTACHMENTS

| <u>ATTACHMENT</u> | <u>TITLE</u> |
|-------------------|-------------------|
| A | CONTRACT DRAWINGS |
| B | RELATED DRAWINGS |

**SECTION 14603
CABLE REEL ASSEMBLY**

PART 1 GENERAL

1.1 SUMMARY

This specification section covers the technical requirements for the fabrication, inspection and testing of a Cable Reel Assembly (CRA).

1.2 REFERENCES

The publications listed below form a part of this specification section to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI Y14.5M 1982 Dimensioning and Tolerancing

**AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
and/or
AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)**

ANSI/ASME B46.1 1985 Surface Texture (Surface Roughness,
Waviness and Lay)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A193/A193M 1991 (Rev. A) Standard Specification for
Alloy Steel and Stainless Steel Bolting
Materials for High-Temperature Service

ASTM A194/A194M 1991 (Rev. A) Standard Specification for
Carbon and Alloy Steel Nuts for Bolts for
High-Pressure and High-Temperature Service

ASTM A240 1991 (Rev. A) Specification for Heat
Resisting Chromium and Chromium Nickel
Stainless Steel Plate, Sheet, and Strip
for Pressure Vessels

ASTM A276 1991 (Rev. A) Specification for Stainless
and Heat Resisting Steel Bars and Shapes

ASTM A480/A480M 1991 (Rev. A) Standard Specification for
General Requirements for Flat Rolled
Stainless and Heat Resisting Steel Plate,
Sheet, and Strip

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)
Boiler and Pressure Vessel Code

ASME Section IX 1989 Welding and Brazing Qualification

OFFICE OF FEDERAL SUPPLY AND SERVICES

QQ-P-35C Passivation Treatments for Corrosion
Resistant Steel

STEEL STRUCTURES PAINTING COUNCIL (SSPC)

SSPC PA-2 1982 Paint Application Specification
Number 2, Measurement of Dry Paint
Thickness with Magnetic Gages

SSPC SP-10 1989 Surface Preparation Specification
Number 10, Near-White Blast Cleaning

1.3 **RELATED REQUIREMENTS**

Specification Section 01730 Operation and Maintenance Data

Specification Section 05060 Welding Structural

Specification Section 13252 Precautions for Fabrication,
Handling and Storage of Stainless
Steel and Nickel Alloys

Specification Section 14601 Pour Turntable

Specification Section 14602 Drain Turntable

Specification Section 14604 Track and Catch Pan Assembly

Specification Section 15196 Identification and Tagging Methods
for Mechanical Equipment

Specification Section 16120 Soldering - Electrical

Specification Section 16610 Electrical Requirements for Packaged
Mechanical Equipment

Specification Section 17857 Local Control Panels for Pour and
Drain Turntables

Specification Section 17908 Instruments Furnished with
Mechanical Equipment - Pour and
Drain Turntables

CONTRACT DRAWINGS

Drawings as listed in Attachment A.

RELATED DRAWINGS

Drawings as listed in Attachment B.

1.4 DEFINITIONS

| | | |
|------|---|--------------------------------|
| ATP | - | Acceptance Test Procedure |
| CMTR | - | Certified Material Test Report |
| CRA | - | Cable Reel Assembly |
| DTT | - | Drain Turntable |
| FAT | - | Factory Acceptance Test |
| NDE | - | Nondestructive Examination |
| PT | - | Liquid Penetrant Examination |
| PTT | - | Pour Turntable |
| TID | - | Total Integrated Dose |

1.5 SYSTEM DESCRIPTION

- 1.5.1 There shall be three cable reels of the spring-loaded design, installed on a common base to form the Cable Reel Assembly (CRA) at the south end of the melter cell facing the track-mounted turntables. There shall be two cable reels dedicated to the Drain Turntable (DTT) (Specification Section 14602), one for power and one for instrumentation. There shall be one cable reel dedicated to the Pour Turntable (PTT) (Specification Section 14601) for power and cart drive position switches as shown on the Contract Drawings.
- 1.5.2 Electrical power and control signals will be interfaced to the operation control center via cable jumpers.
- 1.5.3 The PTT power cable reel assembly is equipped with a 20-turn maximum, 17-3/4 in. minimum drum diameter, brush-type reel rated for 35 amps at 600 volts and 20 feet of 20-conductor, #12 AWG cable. This cable serves the cart drive motor; clutch, brake and positioning limit switches, the turntable spider drive motor and its positioning limit switches. The controls for the spout bellows are provided through a remoteable jumper assembly which is connected after the turntable is positioned beneath the pour spout.
- 1.5.4 The DTT power cable reel assembly is equipped with a 27-turn maximum, 17-3/4 in. minimum drum diameter, brush-type reel rated for 35 amps at 600 volts and 40 feet of 20-conductor, #12 AWG cable. This cable serves the cart drive; clutch, brake and positioning limit switches, the turntable spider drive motor and its positioning limit switches.

- 1.5.5 The DTT instrument cable reel assembly is equipped with a 2-turn minimum, brushless, continuous cable reel with a 10-3/4 in. minimum drum diameter and 40 feet of 4 Twisted Pair #16 AWG insulated cable to handle the low output signals from the weigh scale.

1.6 SUBMITTALS

Submit the following in accordance with the Vendor Drawing and Data Requirements section of the Order/Subcontract.

- 1.6.1 Operation and maintenance data in accordance with Specification Section 01730.
- 1.6.2 Handling, shipping and storage procedure shall be submitted for Buyer review.
- 1.6.3 Acceptance Test Procedure (ATP) shall be submitted for Buyer approval in accordance with Paragraph 2.4.3.1.
- 1.6.4 Seller's Material Control Procedure shall be submitted for Buyer review in accordance with Paragraph 2.1.2.2.
- 1.6.5 Detailed procedure for final dimension check shall be submitted for Buyer approval in accordance with Paragraph 2.3.2.2.
- 1.6.6 As-built drawings shall be submitted for Buyer review in accordance with Paragraph 2.3.2.1.
- 1.6.7 Certified Material Test Reports (CMTRs) shall be submitted for Buyer review in accordance with Paragraph 2.1.4.1.
- 1.6.8 Weld Repair Procedure shall be submitted for Buyer approval in accordance with Paragraph 2.2.2.1.
- 1.6.9 Nondestructive Examination (NDE) procedure shall be submitted for Buyer review in accordance with 2.3.1.1.
- 1.6.10 Inspection results and test reports shall be submitted for Buyer approval in accordance with Paragraphs 2.1.4.1, 2.1.8.1, 2.3.1.1, 2.3.2.1 and 2.4.1.3.
- 1.6.11 Support facility descriptions shall be submitted for Buyer approval in accordance with Paragraph 2.3.2.3.
- 1.6.12 A record of the as-built weight of each cable reel subassembly, and a record of the as-built weight of the completed assembly.
- 1.6.13 A record of heat treatment for all applicable hardware shall be submitted for Buyer review.

1.6.14 A procedure to determine defects greater than 0.012" shall be submitted for Buyer approval.

1.7 CLASSIFICATION OF SYSTEMS AND COMPONENTS

(Not Used)

1.8 PROJECT OR SITE ENVIRONMENTAL CONDITIONS

1.8.1 Climatic and Geographic Site Conditions

A. Site Elevation 714 feet above sea level

B. Barometric Pressure 14.3 psia

1.8.2 Operating Environment

A. Normal Temperature Range 60°F to 104°F

B. Design Basis Temperature 104°F

C. Relative Humidity Not controlled

D. Radiation Level 3×10^8 rads (TID, 10 years)

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

This specification section is in reference to the following equipment:

| <u>Equipment No.</u> | <u>Equipment Name</u> |
|----------------------|-----------------------|
|----------------------|-----------------------|

| | |
|------------|--|
| RA-130-005 | Power Cable Reel Assembly, Drain Turntable |
|------------|--|

| | |
|------------|--|
| RA-130-006 | Instrumentation Cable Reel Assembly, Drain Turntable |
|------------|--|

| | |
|------------|---|
| RA-130-007 | Power Cable Reel Assembly, Pour Turntable |
|------------|---|

| | |
|------------|-------------------------------|
| RA-130-008 | Support Assembly, Cable Reels |
|------------|-------------------------------|

2.1.1 Materials

Materials and components used in fabrication shall be in accordance with the Contract Drawings listed in Attachment A. Fabrication materials shall be as follows, unless otherwise noted on Contract Drawings.

- 2.1.1.1 Unless stated otherwise on Contract Drawings all stainless steel plate, sheet and strip shall be in accordance with ASTM A240, Type 304L. Material shall be supplied hot rolled, annealed and pickled. Blasting as a descaling method shall not be permitted.
- 2.1.1.2 All stainless steel bars and shapes shall be in accordance with ASTM A276, Type 304L. Bars shall be conditioned Class A. Shapes shall be conditioned Class C.
- 2.1.1.3 Stainless steel structural bolts shall be in accordance with ASTM A193/A193M, Grade B6, Type 304.
- 2.1.1.4 Stainless steel structural nuts shall be in accordance with ASTM A194/194M, Grade 8M or Buyer-reviewed equal.
- 2.1.2 Material Contamination
 - 2.1.2.1 Specification Section 13252 provides requirements for materials used in contact with austenitic stainless steel and non-ferrous metals. This specification section applies to all materials.
 - 2.1.2.2 Upon completion of fabrication, examination and tests by Seller, the metal surfaces shall be in accordance with the requirements of Specification Section 13252. Seller's Material Control Procedures shall describe the actions to be taken in the event of material contamination. They shall also address the cleaning and protection of materials as required.
- 2.1.3 Surface Finish
 - 2.1.3.1 Unless otherwise specified on Contract Drawings, surface finish for various material forms shall be as follows: Plates shall be finished in accordance with ASTM A480/A480M Section 10, Paragraph 10.1.2, hot-rolled, annealed and pickled No. 1 finish. A shot or grit-blasted surface is not acceptable. Sheets shall be finished in accordance with ASTM A480/A480M Section 8, Paragraph 8.1.2, No. 2D finish. Strips shall be finished in accordance with ASTM A480/A480M Section 9, Paragraph 9.1.2, No. 2 finish.
 - 2.1.3.2 Unless otherwise specified on Contract Drawings, machined surfaces shall have a 125AA finish in accordance with ANSI/ASME B46.1.
 - 2.1.3.3 No arc strikes, nicks, gouges or other surface defects are permitted. Defects greater than .012 inch in depth shall be repaired by welding and grinding to restore original surface contour. Defects of lesser depth shall be removed by grinding or polishing. Grinding shall be performed using 125 grit or finer abrasive wheels. No defects or grinding marks deeper than those left by a 125 grit abrasive wheel are permitted.

2.1.4 Material Control

- 2.1.4.1 One (1) copy of Certified Material Test Reports (CMTRs) shall be provided for all material and submitted for Buyer review.

2.1.5 Equipment Provided by Seller

- 2.1.5.1 The equipment to be furnished shall be built to print and in accordance with the Related Requirements listed in Paragraph 1.3, the Contract Drawings and this specification section. Seller's work includes: furnish materials, manufacture, assemble, test and deliver the following components in accordance both with the Contract Drawings and this specification section:

- A. Cable Reel Assemblies (CRAs), base frame and sub-frames.
- B. All wiring and cabling from the CRAs to the upper and lower electrical connectors (PUREX type).
- C. Any special tools and accessories required for installation or operation.
- D. Operator console.

- 2.1.5.2 Seller shall provide facilities to measure and test the assembled CRAs in accordance with Paragraphs 2.3 and 2.4.

2.1.6 Equipment Provided by Buyer

- A. Upper and lower electrical connectors (PUREX type).
- B. Internal electrical components for the upper and lower connectors.

2.1.7 Contract Drawings

- 2.1.7.1 Buyer's Contract Drawings for the CRAs and components have dimensional requirements that have been established to meet definite interface points. It is imperative that these interface dimensions be achieved for operational purposes.

- 2.1.7.2 Seller-furnished drawings shall be in accordance with ANSI Y14.5M.

2.1.8 Design Features, Considerations

2.1.8.1 Remoteability

Once radioactive wastes are introduced into the melt cell, manned entrance will no longer be possible for operation or maintenance. Therefore, all components are designed to be remotely removable (hereafter referred to as "remoteable") by means of an overhead

crane into less-radioactive areas for decontamination and maintenance. Remoteability applies to each part of the CRA separately and collectively. Each of the subassemblies incorporates a lifting bail which can be engaged with the overhead crane hook or, in the case of heavy components, with lifting trunnions which can be engaged with a special lifting yoke suspended from the crane hook.

When suspended, all remoteable assemblies and subassemblies must be level within 2 degrees by proper placement of lift points and/or by counterweighting to assure proper engagement with alignment dowels and studs, except as noted on Contract Drawings.

Seller shall demonstrate and document the remoteability and balance of all applicable components in accordance with Paragraph 2.4.3.

2.2 FABRICATION AND MANUFACTURE

The cable reel assemblies and components shall be fabricated in accordance with this specification section and Contract Drawings in Attachment A.

2.2.1 Interchangeability

Each remoteable assembly must be interchangeable with spare assemblies. This requires that all mounting surfaces be precisely located in three planes.

To ensure interchangeability of subsequent assemblies the close tolerance requirements shown in Contract Drawings shall be strictly adhered to. Seller must conduct all close tolerance work with respect to established datum references. Work shall be performed under controlled temperature conditions as deemed necessary in order to achieve and maintain specified dimensions and tolerances. The reference temperature for dimensions and tolerances is 68°F.

2.2.2 Welding

All welding and NDE shall be performed in accordance with Specification Section 05060.

2.2.2.1 Repairs

Seller shall prepare and submit a complete repair procedure for Buyer approval. At minimum, the repair procedure shall include:

A. Type and extent of repairable defects.

B. Defect removal methods. These shall include NDE methods to assure complete defect removal.

C. Repair method. This shall include weld preparation, treatment and reference to ASME Section IX qualified weld procedures.

2.2.2.2 Fabrication of all components and assemblies shall minimize crevices, pockets, absorbent materials or similar voids where contaminants can be trapped.

2.2.2.3 All stainless steel surfaces shall be passivated in accordance with Federal Specification QQ-P-35C.

2.2.3 Coatings

2.2.3.1 Carbon Steel Surfaces

Carbon steel surfaces which will be exposed to cell environment shall be prepared for painting in accordance with SSPC SP-10. Primer shall be an inorganic zinc-rich primer (Ameron Dimetecote 9 or equal), one coat, with a total dry film thickness of 2.5 mils plus or minus .5 mils and a minimum of 6 grams zinc per square foot of dried film. Finish coat shall be a high-build polyamide epoxy paint (Amercoat 66 or equal), two coats, with total dry film thickness of 10 mils plus or minus .5 mils. The total system dry film thickness of primer and finish coat shall be 12.5 mils plus or minus 1.0 mils. Surface color shall be white. Paint shall be applied in accordance with paint manufacturer's recommended methods. Typical components to be painted are housings and other components requiring surface protection.

2.2.3.2 Stainless Steel Surfaces

Stainless steel surfaces shall be painted for the purpose of identification only.

2.2.3.3 Inspection

Dry film thickness measurements shall be verified with a magnetic thickness gauge (Nordson "Mikrotest" or equal) and shall be in accordance with SSPC PA-2.

2.2.3.4 Defects

Defects or damaged areas detected during shop assembly, handling, testing and disassembly shall be repaired. The surface cleanliness and profile shall be restored to meet the specified surface preparation requirements. Precautions shall be taken to protect adjacent coated areas from damage by cleaning. The periphery of the damaged area shall be feathered. The use of

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

vacuum blast type equipment, needle guns and peening wheels is permitted to restore profile.

- 2.2.3.5 Seller shall provide one gallon of each paint used for field touch-up.

2.2.4 Nameplate

Each item of equipment shall be fitted with a stainless steel nameplate securely attached by pins of a similar material. The nameplate shall be in accordance with Specification Section 15196, Paragraph 2.2.2, Type 6.

2.2.5 Instrumentation and Controls

- 2.2.5.1 All instrumentation and controls shall be in accordance with Specification Sections 17857 and 17908.

2.2.6 Electrical Components

Functional requirements of electrical components, instrumentation and definition of Seller/Buyer interfaces are shown in the electrical and instrument diagrams and Contract Drawings listed in Attachment A.

2.2.6.1 Wiring and Cabling

Seller shall provide and install all cables and conduit as shown on the Contract Drawings and in accordance with Specification Sections 16120 and 16610.

- 2.2.6.2 Connectors shall be modified, mounted and located in accordance with the Contract Drawings.

2.3 INSPECTION AND DIMENSIONAL RECORDS

- 2.3.1 Seller shall perform an inspection of all equipment supplied to verify conformance to this specification section. Buyer reserves the right to witness any or all inspections or other activities affecting this specification section and requires a written notice prior to initiation of these inspection-related activities.

2.3.1.1 Welding Inspection and Criteria

Lifting lugs, structural members and full penetration welds shall be surface examined using NDE. Inspection methods are:

- 100 % visual and
- 100 % Liquid Penetrant Examination (PT).

A final surface examination shall be performed after completion of the proof test. Buyer is to review examination results and reports in detail.

Acceptance criteria for NDE shall be in accordance with Specification Section 05060. Buyer shall review Seller's NDE procedures, material certifications and reports to assure accuracy.

2.3.2 Dimensional Records

2.3.2.1 Seller shall perform a complete dimensional inspection of the CRA. Shop assembly drawings and Contract Drawings shall be corrected as necessary to reflect the as-built design. Mylar copies shall be provided by Buyer for Seller to use for recording of as-built dimensions. These mylar copies shall be returned to Buyer. Seller shall record as-built dimensions for all interfaces (such as electrical connector centerline and mating faces, dowel pins or holes, ACME studs or holes, mating plate surfaces, and trunnion centerlines and surfaces).

Measurements shall be made with the CRA placed on Seller-provided temporary base frame support pads.

2.3.2.2 Seller shall submit detailed final dimensional check procedures for Buyer approval. These shall include:

- A. Methods of measurement applicable to specific components or assemblies.
- B. Type of measuring device used.
- C. Methods, frequency and verification of calibration for the precision measurement devices.

2.3.2.3 Facilities Required for Dimensional Measurements

Seller shall provide an enclosed or partitioned area in which to make dimensional measurements of the assembled CRA. Within this area there shall be no interference by any other manufacturing operation such as arc welding or equipment movement. This area will provide a 7-foot clear walkway around the equipment. This area may be the same as the test area. The area must be equipped with a seven-day temperature recorder provided by the Seller to document ambient temperature control. The recorder shall have a current calibration tag. For the purpose of measurement orientation, operation and testing, the side of the CRA having the two reels mounted one over the other shall be considered the west side or 9 o'clock position. The area shall be temperature controlled to 68°F ±5°F throughout the time measurements are made. Adequate lighting of at least 100 foot-candle average shall be

provided. An overhead crane will be required. The rated lifting capacity of this crane shall be at least 5 tons. The crane hook shall clear the height of 39'-2" from the floor.

Seller shall supply rigid supports for optical transits and levels. These supports shall be free-standing, not touching the CRA. Seller shall submit drawings for approval of:

- A. Measurement enclosure area.
- B. Temporary base frame support pads.
- C. Optical instrument supports.

2.3.3 Buyer Witnessing of Dimensional Checks

Buyer shall be notified in advance of the date when final dimensional measurements are to be made. Buyer reserves the right to witness Seller's final dimensional measurements.

2.4 TESTING

2.4.1 General

2.4.1.1 A Factory Acceptance Test (FAT) shall be conducted in accordance both with this specification section and all applicable codes and standards at Seller's plant prior to delivery. This test shall demonstrate satisfactory operation of all equipment and control logic under simulated loading conditions. All tests shall be performed at ambient temperature.

2.4.1.2 Except for the equipment listed in Paragraph 2.1.6, Seller shall provide all equipment, facilities and labor necessary to meet the requirements of the FATs.

2.4.1.3 Seller shall maintain records of all test data and those observations pertinent to equipment performance. These records shall be provided for Buyer review during testing.

2.4.1.4 Buyer shall be informed in advance of date that all factory tests are to be conducted. Buyer reserves the right to attend and witness all factory tests.

2.4.2 Special Facilities Required for Testing

2.4.2.1 A test area of sufficient size to assemble and operate all equipment covered by this specification section.

2.4.2.2 An overhead crane shall be available. Rated lifting capacity of the crane shall be not less than 5 tons. A 1/2 ton electric hoist will also be required.

2.4.3 Acceptance Test Procedure (ATP)

2.4.3.1 An Acceptance Test Procedure shall be submitted for Buyer approval. The ATP shall cover, as a minimum, all activities identified below plus any other activities determined by Seller as being significant to the overall performance of the equipment. The ATP shall include demonstration of the functionality and remoteability of the CRA and its subassemblies. Seller shall submit a checklist for approval prior to beginning the tests. This checklist shall contain the tests to be performed. It shall identify all instruments and special equipment to be used and measurements to be made. The tests shall include but not be limited to the following:

- A. Initial set-up and assembly of the cable reel assembly unit.
- B. Test of lifting trunnions to verify mechanical integrity.
- C. Verification of interface dimensions of guide trunnions and support pad locations.
- D. Demonstration of each cable reel individually and collectively for mechanical/electrical functionality.
- E. Balance of complete CRA assembly.
- F. Remoteability and balance of each subsystem.

2.4.3.2 The following test sequence is intended as a guide to enable Seller to plan for the equipment and services to support the set-up and tests. The set-up and test area may be the same as outlined in Paragraphs 2.3.2.3 and 2.4.2.

- A. Demonstrate that Seller-furnished temporary support pads supporting the CRA have been correctly spaced and leveled to within .010 inch.
- B. Use Seller-furnished overhead crane to remotely install each of the sub-assembled CRAs.
- C. Verify CRA for proper fit and mechanical alignment.
- D. Verify remoteability of each individual cable reel subsystem.
- E. Check mechanical functionality of the CRA. This shall include a check of:
 - Cable reel tension, fully retracted.
 - Cable reel tension, fully extended.
- F. For electrical testing, see Specification Section 16610.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

- G. Verify for dimensional integrity and interface dimensions.
- H. Perform visual inspection, evaluation of surface finish.
- I. Test the lifting trunnions and bails for mechanical integrity in accordance with Paragraph 2.4.3.3.

2.4.3.3 Trunnion Proof Test

A trunnion proof test shall be performed. The test shall be based on lifting a load that is 150% greater than the weight of the CRA.

During each lift test the CRA shall be suspended for 10 minutes at a lift height of not less than 12 inches above the CRA support pad. This test shall be repeated 10 times with a waiting period of two (2) minutes between tests. After completion of the lifting cycle a NDE inspection/evaluation in accordance with Paragraph 2.3.1.1 shall be performed. The visual inspection shall include the verification for any deformation/stress cracking on the lifting trunnion and its basic load-bearing members.

2.4.3.4 Acceptance Criteria

The criteria for acceptance of the equipment by the Buyer from the Seller is as follows, in accordance with testing performed in Paragraphs 2.4.3.2 and 2.4.3.3:

- A. The ability of the three remoteable cable reel assemblies to functionally assemble over their dowel pins and studs and balance when lifted by the bail within 2 degrees of horizontal.
- B. Satisfactory, complete and repeatable functionality of all electrical interfaces (electrical connectors) and cable reels to carry electrical and instrumentation signals from the lower connectors to the upper electrical connectors attached to the cable.
- C. Satisfactory and repeatable functionality of the cable and cable reels to extend and retract the cable.
- D. Satisfactory completion of proof load test and subsequent NDE inspection.

PART 3 EXECUTION

(Not Used)

END OF SECTION

**ATTACHMENT A
CONTRACT DRAWINGS**

| DRAWING NUMBER | SHEET | OF | TITLE |
|----------------|-------|----|---|
| H-2-120562 | 1 | 5 | Power Cable Reel Parts List and Notes |
| H-2-120562 | 2 | 5 | Power Cable Reel Assembly |
| H-2-120562 | 3 | 5 | Power Cable Reel Frame Assembly |
| H-2-120562 | 4 | 5 | Power Cable Reel Connector Folding Rail Weldment |
| H-2-120562 | 5 | 5 | Power Cable Reel Details and Leg Assembly |
| H-2-120563 | 1 | 4 | Power Cable Reel Parts List & Notes |
| H-2-120563 | 2 | 4 | Power Cable Reel Assembly |
| H-2-120563 | 3 | 4 | Power Cable Reel Frame Assembly |
| H-2-120563 | 4 | 4 | Power Cable Reel Details Removable Leg Assembly |
| H-2-120563 | 5 | 5 | Power Cable Reel Details |
| H-2-120564 | 1 | 6 | Instrumentation Cable Reel Assembly |
| H-2-120564 | 2 | 6 | Instrumentation Cable Reel Assembly |
| H-2-120564 | 3 | 6 | Instrumentation Cable Reel Frame Assembly |
| H-2-120564 | 4 | 6 | Instrumentation Cable Reel Frame Weldment |
| H-2-120564 | 5 | 6 | Instrumentation Cable Reel Assembly |
| H-2-120564 | 6 | 6 | Instrumentation Cable Reel Details |
| H-2-120565 | 1 | 10 | Cable Reels Support Frame Parts List & Notes |
| H-2-120565 | 2 | 10 | Cable Reels Support Frame Weldment |
| H-2-120565 | 3 | 10 | Cable Reels Support Frame Weldment |
| H-2-120565 | 4 | 10 | Cable Reels Support Frame Details & Weldments |
| H-2-120565 | 5 | 10 | Cable Reels Support Frame Lifting Lug Weldments |
| H-2-120565 | 6 | 10 | Cable Reels Support Frame Left Lifting Lug Detail |
| H-2-120565 | 7 | 10 | Cable Reels Support Frame Right Lifting Lug Det |
| H-2-120565 | 8 | 10 | Cable Reels Support Frame Bridge Weldment |
| H-2-120568 | 1 | 1 | Mechanical Connector Housing Assembly |

| DRAWING NUMBER | SHEET | OF | TITLE |
|----------------|-------|----|--|
| H-2-122425 | 1 | 2 | Electrical General Notes Symbols and Details |
| H-2-122425 | 2 | 2 | Electrical General Notes Symbols and Details |
| H-2-122426 | 1 | 1 | Electrical Pour & Drain Turntables Block Diagram |
| H-2-122427 | 1 | 3 | Electrical Connection Diagram TU-130-002 |
| H-2-122427 | 2 | 3 | Electrical Connection Diagram TU-130-002 |
| H-2-122427 | 3 | 3 | Electrical Connection Diagram TU-130-001 |

**ATTACHMENT B
RELATED DRAWINGS**

| DRAWING NUMBER | TITLE |
|----------------|------------------------------|
| H-2-120052 | Melter Assembly |
| H-2-120302 | Pour Turntable Assembly |
| H-2-120368 | Drain Turntable Assembly |
| H-2-120422 | Emergency Pull Rope |
| H-2-120550 | Track and Catch Pan Assembly |
| W747391 | Canister Assembly |

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

9513336-0888

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Fluor Contract 8457

SECTION 14604
TRACK AND CATCH PAN ASSEMBLY
B-595-P-P06B-14604

APPROVED FOR CONSTRUCTION

REVISION 0
ISSUE DATE 4-6-93

| | | | | |
|---------------|-----|-----------|----|-----------|
| WAPA | YES | <u> </u> | NO | <u>X</u> |
| QUALITY LEVEL | I | <u> </u> | II | <u>X</u> |
| SAFETY CLASS | 1 | <u> </u> | 2 | <u> </u> |
| | | <u> </u> | 3 | <u>X</u> |
| | | <u> </u> | 4 | <u> </u> |

ORIGINATOR:

CHECKER:

Richard Choate 3/29/93
R. B. Choate, Mechanical Engineer Date

D. A. Buzzelli 3-29-93
D. A. Buzzelli, Lead Disc. Checker Date

APPROVED BY:

C. J. Divona
C. J. Divona Lead Discipline Engineer

3/29/93
Date

SECTION 14604
TRACK AND CATCH PAN ASSEMBLY
B-595-P-P06B-14604

TABLE OF CONTENTS

| <u>PART</u> | | <u>PAGE</u> |
|---------------|--|-------------|
| PART 1 | GENERAL | 1 |
| 1.1 | SUMMARY | 1 |
| 1.2 | REFERENCES | 1 |
| 1.3 | RELATED REQUIREMENTS | 2 |
| 1.4 | DEFINITIONS | 2 |
| 1.5 | SYSTEM DESCRIPTION | 3 |
| 1.6 | SUBMITTALS | 3 |
| 1.7 | CLASSIFICATION OF SYSTEMS AND COMPONENTS | 4 |
| 1.8 | PROJECT OR SITE ENVIRONMENTAL CONDITIONS | 4 |
| PART 2 | PRODUCTS | 5 |
| 2.1 | MATERIALS AND EQUIPMENT | 5 |
| 2.2 | FABRICATION AND MANUFACTURE | 7 |
| 2.3 | INSPECTION AND DIMENSIONAL RECORDS | 9 |
| 2.4 | TESTING | 12 |
| PART 3 | EXECUTION | 14 |

ATTACHMENTS

| <u>ATTACHMENT</u> | <u>TITLE</u> |
|-------------------|-------------------|
| A | CONTRACT DRAWINGS |
| B | RELATED DRAWINGS |

**SECTION 14604
TRACK AND CATCH PAN ASSEMBLY**

PART 1 GENERAL

1.1 SUMMARY

This specification section covers the technical requirements for the fabrication, inspection and testing of a Track and Catch Pan Assembly Structure (T&CP).

1.2 REFERENCES

The publications listed below form a part of this specification section to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)
and/or

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ANSI/ASME B46.1 1985 Surface Texture (Surface Roughness, Waviness and Lay)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM A193/A193M 1990 (Rev. A) Standard Specification for Alloy Steel and Stainless Steel Bolting Materials for High-Temperature Service

ASTM A194/A194M 1990 (Rev. A) Standard Specification for Carbon and Alloy Steel Nuts for Bolts for High-Pressure and High-Temperature Service

ASTM A240 1991 (Rev. A) Specification for Heat Resisting Chromium and Chromium Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels

ASTM A276 1990 (Rev. A) Specification for Stainless and Heat Resisting Steel Bars and Shapes

ASTM A480/A480M 1991 (Rev. A) Standard Specification for General Requirements for Flat Rolled Stainless and Heat Resisting Steel Plate, Sheet, and Strip

U.S. DEPARTMENT OF ENERGY
 Hanford Waste Vitrification Plant
 Richland, Washington
 DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
 Advanced Technology Division
 Fluor Contract 8457

Rev. 0

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)
Boiler and Pressure Vessel Code

ASME Section IX 1989 Welding and Brazing Qualifications

OFFICE OF FEDERAL SUPPLY AND SERVICES

**QQ-P-35C Passivation Treatments for Corrosion
 Resistant Steel**

STEEL STRUCTURES PAINTING COUNCIL (SSPC)

**SSPC SP-10 1989 Surface Preparation Specification Number
 10, Near-White Blast Cleaning**

1.3 RELATED REQUIREMENTS

Specification Section 01730 Operation and Maintenance Data
 Specification Section 05060 Welding Structural
 Specification Section 13252 Precautions for Fabrication, Handling
 and Storage of Stainless Steel and
 Nickel Alloys
 Specification Section 14601 Pour Turntable
 Specification Section 14602 Drain Turntable
 Specification Section 15196 Identification and Tagging Methods for
 Mechanical Equipment

CONTRACT DRAWINGS

Drawings as listed in Attachment A.

RELATED DRAWINGS

Drawings as listed in Attachment B.

1.4 DEFINITIONS

ATP - Acceptance Test Procedure
 CMTR - Certified Material Test Report
 DTT - Drain Turntable
 FAT - Factory Acceptance Test
 NDE - Nondestructive Examination
 PT - Liquid Penetrant Examination
 PTT - Pour Turntable
 T&CP - Track and Catch Pan
 TID - Total Integrated Dose

1.5 SYSTEM DESCRIPTION

The Track and Catch Pan (T&CP) assembly consists of two structural subassemblies, the north and south track and catch pan assemblies. These assemblies are mated together at the middle during installation in the Melter Cell. Upon installation, they are interlocked into trunnion guides.

The T&CP assembly serves as the support for both the Pour Turntable (PTT) (Specification Section 14601) and Drain Turntable (DTT) (Specification Section 14602) and contains the fixed stops against which each turntable is located. The T&CP also catches and contains any molten radioactive glass from spilling onto the Melter Cell floor. Two thin stainless steel sheets, top and bottom, separated by insulation, insulate the floor from the melter.

The T&CP assembly is not bolted to the floor but rests on 34 steel "pads". They are mounted to the assembly directly over steel embeds placed in the concrete floor. The assembly relies both on its weight and the trunnion guides placed at six points around the assembly to keep it in place.

1.6 SUBMITTALS

Submit the following in accordance with the Vendor Drawing and Data Requirements section of the Order/Subcontract.

- 1.6.1 Operation and Maintenance Data in accordance with Specification Section 01730.
- 1.6.2 Handling, shipping and storage procedures shall be submitted for Buyer review.
- 1.6.3 Acceptance Test Procedure (ATP) and checklist shall be submitted for Buyer approval in accordance with Paragraph 2.4.3.1.
- 1.6.4 Seller's Material Control Procedure shall be submitted for Buyer review in accordance with Paragraph 2.1.2.2.
- 1.6.5 Detailed procedure for Final Dimensional check shall be submitted for Buyer approval in accordance with Paragraph 2.3.2.2.
- 1.6.6 Interchangeability Dimensional Record Drawing shall be submitted for Buyer review in accordance with Paragraphs 2.2.1 and 2.3.2.1.
- 1.6.7 Certified Material Test Reports (CMTRs) shall be submitted for Buyer review in accordance with Paragraph 2.1.4.1.
- 1.6.8 Weld Repair Procedure shall be submitted for Buyer approval in accordance with Paragraph 2.2.2.1.

U.S. DEPARTMENT OF ENERGY
 Hanford Waste Vitrification Plant
 Richland, Washington
 DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
 Advanced Technology Division
 Fluor Contract 8457

Rev. 0

- 1.6.9 Nondestructive Examination (NDE) Procedure shall be submitted for Buyer review in accordance with Paragraph 2.3.1.1.
- 1.6.10 Test reports and inspection results shall be submitted for Buyer approval in accordance with Paragraphs 2.1.4.1, 2.1.8.1, 2.3.1.1, 2.3.2.1 and 2.4.1.3.
- 1.6.11 Support facilities descriptions shall be submitted for Buyer approval in accordance with Paragraph 2.3.2.3.
- 1.6.12 Dimensional records shall be submitted for Buyer approval in accordance with Paragraph 2.3.2.1.
- 1.6.13 Descriptions of mixing, preparation and forming methodology to be used in installing insulation materials shall be submitted for Buyer review in accordance with Paragraph 2.2.6.
- 1.6.14 A record of heat treatment for all applicable hardware shall be submitted for Buyer review.
- 1.6.15 A procedure to determine defects greater than 0.012" shall be submitted for Buyer approval.

1.7 CLASSIFICATION OF SYSTEMS AND COMPONENTS

(Not Used)

1.8 PROJECT OR SITE ENVIRONMENTAL CONDITIONS

1.8.1 Climatic and Geographic Site Conditions

- A. Site Elevation 714 feet above sea level
- B. Barometric Pressure 14.3 psia

1.8.2 Operating Environment

- A. Normal Temperature Range 60°F to 104°F
- B. Design Basis Temperature 104°F
- C. Relative Humidity Not controlled
- D. Radiation Level 3×10^8 rads (TID, 10 years)

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

This specification section is in reference to the following equipment:

| <u>Equipment No.</u> | <u>Equipment Name</u> |
|----------------------|------------------------------------|
| RA-130-009 | North Track and Catch Pan Assembly |
| RA-130-010 | South Track and Catch Pan Assembly |

2.1.1 Materials

Materials and components used in fabrication shall be in accordance with the Contract Drawings listed in Attachment A. Fabrication materials shall be as follows, unless otherwise noted on drawings.

2.1.1.1 Unless stated otherwise on the Contract Drawings all stainless steel plate, sheet and strip shall be in accordance with ASTM A240, Type 304L. Material shall be supplied hot rolled, annealed and pickled. Blasting as a descaling method shall not be permitted.

2.1.1.2 All stainless steel bars and shapes shall be in accordance with ASTM A276, Type 304L. Bars shall be conditioned Class A. Shapes shall be conditioned Class C.

2.1.1.3 Stainless steel structural bolts shall be in accordance with ASTM A193/A193M, Grade B6, Type 304.

2.1.1.4 Stainless steel structural nuts shall be in accordance with ASTM A194/A194M, Grade 8M or Buyer-reviewed equal.

2.1.2 Material Contamination

2.1.2.1 Specification Section 13252 provides requirements for materials used in contact with austenitic stainless steel and non-ferrous metals. This specification applies to all materials.

2.1.2.2 Upon completion of fabrication, examination and tests by Seller, the metal surfaces shall be in accordance with the requirements of Specification Section 13252. Seller's Material Control Procedures shall describe the actions to be taken in the event of material contamination. They shall also address the cleaning and protection of materials as required.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

2.1.3 Surface Finish

2.1.3.1 Unless otherwise specified on Contract Drawings, surface finish for various material forms shall be as follows: Plates shall be finished in accordance with ASTM A480/A480M, Section 10, Paragraph 10.1.2, hot-rolled, annealed and pickled No. 1 finish. A shot or grit-blasted surface is not acceptable. Sheets shall be finished in accordance with ASTM A480/A480M, Section 8, Paragraph 8.1.2, No. 2D finish. Strips shall be finished in accordance with ASTM A480/A480M Section 9, Paragraph 8.1.1, No. 2 finish.

2.1.3.2 Unless otherwise specified on Contract Drawings, machined surfaces shall have a 125AA finish in accordance with ANSI/ASME B46.1.

2.1.3.3 No arc strikes, nicks, gouges or other surface defects are permitted. Defects greater than .012 inch in depth shall be repaired by welding and grinding to restore original surface contour. Defects of lesser depth shall be removed by grinding or polishing. Grinding shall be performed using 125 grit or finer abrasive wheels. No defects or grinding marks deeper than those left by a 125 grit abrasive wheel are permitted.

2.1.4 Material Control

2.1.4.1 One (1) copy of Certified Material Test Reports (CMTRs) shall be provided for all material and submitted for Buyer review.

2.1.5 Equipment Provided by Seller

2.1.5.1 The equipment to be furnished shall be built to print and in accordance both with the Related Requirements listed in Paragraph 1.3 and Contract Drawings listed in Attachment A. Seller's work includes: Furnish materials, manufacture, assemble, test and deliver the following components in accordance both with the Contract Drawings and this specification section:

A. All structural steel framework, pan, and insulation required to provide the North and South Track and Catch Pan assemblies.

B. Any special tools and accessories required for installation or operation.

2.1.5.2 Seller shall provide facilities to measure, fit check and provide lifting load tests of the assembled T&CP assembly in accordance with Paragraphs 2.3 and 2.4.

2.1.6 Equipment Provided by Buyer

Component lifting yokes and special grapples.

2.1.7 Contract Drawings

Buyer's Contract Drawings for the T&CP assembly and components have dimensional requirements that have been established to meet definite interface points. It is imperative that these interface dimensions be achieved for operational purposes.

2.1.8 Design Features, Considerations

2.1.8.1 Remoteability

Once radioactive wastes are introduced into the Melter Cell, manned entrance will no longer be possible for operation or maintenance. Therefore, all components are designed to be remotely removable (hereafter referred to as "remoteable") by means of an overhead crane.

Each of the subassemblies incorporates lifting trunnions which can be engaged with a special lifting yoke suspended from the crane hook.

When suspended, all remoteable assemblies and subassemblies must be level within 2 degrees by proper placement of lift points and/or by counterweighting to assure good balance.

Seller shall demonstrate and document the remoteability and balance of the two assemblies in accordance with Paragraph 2.4.3.

2.2 FABRICATION AND MANUFACTURE

The Track and Catch Pan (T&CP) Assemblies and subassemblies shall be fabricated in accordance both with this specification section and T&CP Contract Drawings H-2-120550, H-2-120553 and H-2-120554.

2.2.1 Interchangeability

Each remoteable assembly must be interchangeable with spare assemblies. This requires that all mounting surfaces be precisely located in three planes.

To ensure interchangeability of subsequent assemblies the close tolerance requirements shown in Contract Drawings shall be strictly adhered to. Seller must conduct all close tolerance work with respect to established datum references. Work shall be performed under controlled temperature conditions as deemed necessary in order to achieve and maintain specified dimensions and tolerances. The reference temperature for dimensions and tolerances is 68°F. Seller shall complete the Dimensional Record Drawing H-2-120555 and submit for Buyer review.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

2.2.2 Welding

All welding and NDE shall be performed in accordance with Specification Section 05060.

2.2.2.1 Repairs

Seller shall prepare and submit a complete repair procedure for Buyer approval. At minimum, the repair procedure shall include:

- A. Type and extent of repairable defects.
- B. Defect removal methods. These shall include NDE methods to assure complete defect removal.
- C. Repair method. This shall include weld preparation, treatment and reference to ASME Section IX qualified weld procedures.

2.2.2.2 Fabrication of all components and assemblies shall minimize crevices, pockets, absorbent materials or similar voids where contaminants can be trapped.

2.2.2.3 All stainless steel surfaces shall be passivated in accordance with Federal Specification QQ-P-35C.

2.2.3 Coatings

2.2.3.1 Carbon Steel Surfaces

Carbon steel surfaces which will be exposed to cell environment shall be prepared for painting in accordance with SSPC SP-10. Primer shall be an inorganic zinc-rich primer (Ameron Dimetcote 9 or equal), one coat, with a total dry film thickness of 2.5 mils plus or minus .5 mils and a minimum of 6 grams zinc per square foot of dried film. Finish coat shall be a high-build polyamide epoxy paint (Amercoat 66 or equal), two coats, with total dry film thickness of 10 mils plus or minus .5 mils. The total system dry film thickness of primer and finish coat shall be 12.5 mils plus or minus 1.0 mils. Surface color shall be white. Paint shall be applied in accordance with paint manufacturer's recommended methods.

Contact surfaces of rails shall not be painted.

2.2.3.2 Stainless Steel Surfaces

Stainless steel surfaces shall be painted for the purpose of identification only.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

2.2.3.3 Defects

Defects or damaged areas detected during shop assembly, handling, testing and disassembly shall be repaired. The surface cleanliness and profile shall be restored to meet the specified surface preparation requirements. Precautions shall be taken to protect adjacent coated areas from damage by cleaning. The periphery of the damaged area shall be feathered. The use of vacuum blast type equipment, needle guns and peening wheels is permitted to restore profile.

2.2.3.4 Seller shall provide one gallon of each paint used for field touch-up.

2.2.4 Nameplate

Each item of equipment shall be fitted with a permanent corrosion-resistant metal nameplate securely attached by pins of a similar material. The nameplate shall be in accordance with Specification Section 15196, Paragraph 2.2.2, Type 6.

2.2.5 Instrumentation and Controls

No instrumentation is mounted on the T&CP assembly.

2.2.6 Insulations

The insulations used on the equipment covered by this section are of the molded variety and called out on the Contract Drawings listed in Attachment A. Seller is to prepare and form the insulation in accordance with manufacturer's recommended methods. At least one month of shelf life shall remain on the product at the time of installation into the applicable equipment. Seller shall submit a description of mixing, preparation and forming methodology to be used in installing this insulation into the equipment.

2.3 INSPECTION AND DIMENSIONAL RECORDS

2.3.1 Seller shall perform an inspection of all equipment supplied to verify conformance to this specification section. Buyer shall be given notice, in writing, before these inspection activities are initiated. Buyer reserves the right to witness any or all inspections or other activities affecting this specification section.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

2.3.1.1 Welding Inspection and Criteria

Trunnions and structural members and full penetration welds shall be surface examined. Nondestructive examination (NDE) shall be used. Seller shall submit NDE procedure, material certifications and reports for Buyer review. Inspection methods are:

- 100 % visual and
- 100 % Liquid Penetrant Examination (PT).

A final surface examination shall be performed after completion of the proof test. Detailed examination results and reports shall be submitted for Buyer review.

Acceptance criteria for NDE shall be in accordance with Specification Section 05060.

2.3.1.2 Track and Catch Pan Assembly Lifting Trunnions

The lifting trunnions and basic load bearing structural members will be subject to the following requirements:

- A. The lifting trunnions for each assembly shall meet a load factor of 150 percent of the weight of the assembly.
- B. Buyer shall review Seller's NDE procedures, material certifications and reports to assure accuracy.
- C. Lifting trunnions shall be complete with end stops to prevent accidental slipping from lifting hooks.

2.3.2 Dimensional Records

2.3.2.1 Seller shall perform a complete dimensional inspection of the T&CP. A mylar copy of Drawing H-2-120555 shall be provided by the Buyer for the Seller to use for documentation. This copy shall be returned.

Seller shall record, on the mylar copy, the actual as-built dimensions that locate or define critical surfaces with respect to melter cell locations shown on Drawing H-2-120555. Such surfaces are track surfaces, guide pins, fixed stop surfaces, guide trunnions and "pad" surfaces.

X, Y and Z coordinates specified on Drawing H-2-120555 shall be measured with the T&CP placed on Seller-provided temporary support pads.

Dimensional inspection is to be made after proof load tests are completed as described in Paragraph 2.4.3.3.

2.3.2.2 Seller shall submit detailed final dimensional check procedures for Buyer approval. These shall include:

- A. Methods of measurement applicable to specific components or assemblies.
- B. Type of measuring device used.
- C. Methods, frequency and verification of calibration for the precision measurement devices.

2.3.2.3 Facilities Required for Dimensional Measurements

Seller shall provide an enclosed or partitioned area in which to make dimensional measurements of the assembled T&CP. Within this area there shall be no interference by any other manufacturing operation such as arc welding or equipment movement. This area will provide a 7-foot clear walkway around the equipment. This area may be the same as the test area. The area must be equipped with a seven-day temperature recorder provided by the Seller to document ambient temperature control. The recorder shall have a current calibration tag. Orientation with reference to measurement, operation and testing shall be with respect to the points of the compass. The area shall be temperature controlled to 68°F ±5°F throughout the time measurements are made. Adequate lighting of at least 100 foot-candle average shall be provided. An overhead crane will be required. The rated lifting capacity of this crane shall be not less than 20 tons. The crane hook shall clear the height of 39'-2" from the floor.

Seller shall supply rigid supports for optical transits and levels. These supports shall be free-standing, not touching the T&CP. Seller shall submit for approval drawings of:

- A. Measurement enclosure area.
- B. Temporary support pads.
- C. Optical instrument supports.

2.3.3 Buyer Witnessing of Dimensional Checks

Buyer shall be notified in advance of the date when final dimensional measurements are to be made. Buyer reserves the right to witness Seller's final dimensional measurements.

2.4 TESTING

2.4.1 General

2.4.1.1 A Factory Acceptance Test (FAT) shall be conducted in accordance both with this specification section and all applicable codes and standards at Seller's plant prior to delivery. This test shall demonstrate satisfactory operation of all equipment under simulated loading conditions. All tests shall be performed at ambient temperature.

2.4.1.2 Except for the equipment listed in Paragraph 2.1.6 Seller shall provide all equipment, facilities and labor necessary to meet the requirements of the FATs.

2.4.1.3 Seller shall maintain records of all test data and those observations pertinent to equipment performance. These records shall be provided to Buyer upon request.

2.4.1.4 Buyer shall be informed in advance of date that all FATs are to be conducted. Buyer reserves the right to attend and witness all FATs.

2.4.2 Special Facilities Required for Testing

2.4.2.1 A test area of sufficient size to assemble and operate all equipment covered by this specification section.

2.4.2.2 An overhead crane shall be available. Rated lifting capacity of the crane shall be not less than 20 tons.

2.4.3 Acceptance Test Procedure

2.4.3.1 An Acceptance Test Procedure (ATP) shall be submitted for Buyer approval. The ATP shall cover, as a minimum, all activities identified below plus any other activities determined by Seller as being significant to the overall performance of the equipment. The ATP shall include demonstration of the functionality and remoteability of the T&CP and its subassemblies. Seller shall submit a checklist for approval prior to beginning the tests. This checklist shall contain the tests to be performed. It shall identify all instruments and special equipment to be used and measurements to be made. The tests shall include but not be limited to the following:

- A. Test of the north and south T&CP lifting trunnions to verify mechanical integrity.
- B. Installation of the two assemblies into Seller-supplied trunnion guides. Seller shall perform installation in accordance with T&CP Assembly Drawing H-2-120550.

- C. Verification of interface dimensions.
- D. Remoteability of each subassembly.
- E. Record the weight of the T&CP assembly on Dimensional Record Drawing H-2-120555.

2.4.3.2 The following test sequence is intended as a guide to enable Seller to plan for the equipment and services to support the set-up and tests. The set-up and test area may be the same as outlined in Paragraphs 2.3.2.3 and 2.4.2.

- A. Demonstrate that Seller-furnished temporary support pads supporting the T&CP have been correctly spaced and leveled to within .010 inch.
- B. Demonstrate that trunnion guides are correctly positioned to meet dimensional criteria of the system design.
- C. Use Seller-furnished overhead crane to remotely install fully-assembled north and south T&CP assemblies. Buyer-furnished lifting yoke shall also be used.
- D. Verify T&CP for proper fit and mechanical alignment relative to trunnion guides.
- E. Verify remoteability of each individual T&CP subassembly.
- F. Verify for dimensional integrity and interface dimensions.
- G. Perform visual inspection, evaluation of surface finish.
- H. Test the lifting trunnions for mechanical integrity in accordance with Paragraph 2.4.3.3.
- I. Weigh the T&CP assembly.

2.4.3.3 Trunnion Proof Test

A trunnion proof test shall be performed. The test shall be based on lifting a load that is 150% greater than the weight of the individual T&CP subassemblies.

During each lift test the T&CP assemblies shall be suspended for 10 minutes at a lift height of not less than 12 inches above their support pads. This test shall be repeated 10 times with a waiting period of two (2) minutes between tests. After completion of the lifting cycle a NDE inspection/evaluation shall be performed in accordance with Paragraph 2.3.1.1. The visual inspection shall include the verification for any deformation/stress cracking on the lifting trunnion and its basic load-bearing members.

2.4.3.4 Acceptance Criteria

The criteria for acceptance of the equipment by the Buyer is as follows, in accordance with testing performed in Paragraphs 2.4.3.2 and 2.4.3.3:

- A. The ability of the two T&CP assembly halves to mate together properly when assembled into the trunnion guides and balance when lifted by the trunnions within 2 degrees of horizontal.
- B. Satisfactory completion of proof load test and subsequent NDE inspection.

PART 3 EXECUTION

(Not Used)

END OF SECTION

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

**ATTACHMENT A
CONTRACT DRAWINGS**

| DRAWING NUMBER | SHEET | OF | TITLE |
|----------------|-------|----|--|
| H-2-120550 | 1 | 6 | Track & Catch Pan Assembly Parts List & Notes |
| H-2-120550 | 2 | 6 | Track & Catch Pan Details |
| H-2-120550 | 3 | 6 | Track & Catch Pan Rail Details |
| H-2-120550 | 4 | 6 | Track & Catch Pan Rail Details |
| H-2-120550 | 5 | 6 | Track & Catch Pan Details |
| H-2-120550 | 6 | 6 | Track & Catch Pan Details |
| H-2-120552 | 1 | 2 | Trunnion Cap Assembly Parts List & Notes |
| H-2-120552 | 2 | 2 | Trunnion Cap Details |
| H-2-120553 | 1 | 7 | South Track & Catch Pan Parts List & Notes |
| H-2-120553 | 2 | 7 | South Track & Catch Pan Assy |
| H-2-120553 | 3 | 7 | South Track & Catch Pan Assembly |
| H-2-120553 | 4 | 7 | South Track & Catch Pan Assembly |
| H-2-120553 | 5 | 7 | South Track & Catch Plate Pan Details |
| H-2-120553 | 6 | 7 | South Track & Catch Plate Pan Details |
| H-2-120553 | 7 | 7 | South Track & Catch Plate Pan Structural Tubing Details |
| H-2-120554 | 1 | 7 | North Track & Catch Pan Parts List & Notes |
| H-2-120554 | 2 | 7 | North Track & Catch Pan Assembly |
| H-2-120554 | 3 | 7 | North Track & Catch Pan Assembly |
| H-2-120554 | 4 | 7 | North Track & Catch Pan Assembly |
| H-2-120554 | 5 | 7 | North Track & Catch Pan Details |
| H-2-120554 | 6 | 7 | North Track & Catch Pan Details |
| H-2-120554 | 7 | 7 | North Track & Catch Pan Details |

**ATTACHMENT B
RELATED DRAWINGS**

POUR TURNTABLE

| DRAWING NUMBER | TITLE |
|----------------|--|
| H-2-120302 | Pour Turntable Assembly |
| H-2-120302 | Pour Turntable Assembly |
| H-2-120305 | Pour Turntable Cart Drive Parts List & Notes |
| H-2-120311 | Cart Support Assembly Parts List & Notes |
| H-2-120312 | Cart Drive Parts List & Notes |
| H-2-120313 | Fixed Stop Assembly Parts List & Notes |
| H-2-120315 | Cart Assembly Parts List & Notes |
| H-2-120317 | Lower Frame Assembly |

DRAIN TURNTABLE

| DRAWING NUMBER | TITLE |
|----------------|---|
| H-2-120368 | Drain Turntable Assembly |
| H-2-120368 | Drain Turntable Assembly |
| H-2-120377 | Cart Dr Mot Assy Parts List & Notes |
| H-2-120379 | Drain Turntable Cart Assy Parts List & Notes |
| H-2-120380 | Cart Spider Drive Support Assembly |
| H-2-120381 | Cart Base Assembly |
| H-2-120382 | Cart Drive Support Assembly Parts List & Notes |
| H-2-120383 | Fixed Stop Assembly |
| H-2-120385 | Cart Drive Assembly |
| H-2-120390 | Support Bracket Weldment and Parts List & Notes |

OTHER

| DRAWING NUMBER | TITLE |
|----------------|--|
| H-2-120052 | Melter Assembly |
| H-2-120302 | Pour Turntable Assembly |
| H-2-120368 | Drain Turntable Assembly |
| H-2-120422 | Emergency Pull Rope |
| H-2-120562 | Power Cable Reel Assembly, PTT |
| H-2-120563 | Power Cable Reel Assembly, DTT |
| H-2-120564 | Instrumentation Cable Reel Assembly, DTT |
| H-2-120565 | Cable Reels, Support Frame |
| W747391 | Canister Assembly |

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U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

SECTION 15196
IDENTIFICATION AND TAGGING METHODS
FOR MECHANICAL EQUIPMENT
B-595-P-P06B-15196

APPROVED FOR CONSTRUCTION

REVISION 0
ISSUE DATE 4-6-93

| | | | | |
|---------------|-----|-----------|----|-----------|
| WAPA | YES | <u> </u> | NO | <u>X</u> |
| QUALITY LEVEL | I | <u> </u> | II | <u>X</u> |
| SAFETY CLASS | 1 | <u> </u> | 2 | <u>3X</u> |
| | | | 4 | <u> </u> |

ORIGINATOR(S):

CHECKER(S):

James J. Lowerre, Jr. 29 Mar 93 D. A. Buzzelli 3-29-93
J. Lowerre, Tech. Writer (Mech.) (Date) D. A. Buzzelli, Lead Disc. Checker (Date)

APPROVED BY:

C. J. Divona 3-29-93
C. J. Divona Lead Discipline Engineer (Date)

SECTION 15196
IDENTIFICATION AND TAGGING METHODS
FOR MECHANICAL EQUIPMENT
B-595-P-P06B-15196

TABLE OF CONTENTS

| <u>PART</u> | <u>PAGE</u> |
|--|-------------|
| PART 1 GENERAL | 1 |
| 1.1 SUMMARY | 1 |
| 1.2 REFERENCES | 1 |
| 1.3 RELATED REQUIREMENTS | 1 |
| 1.4 DEFINITIONS | 1 |
| 1.5 SYSTEM DESCRIPTION | 1 |
| 1.6 SUBMITTALS | 2 |
| 1.7 CLASSIFICATION OF SYSTEMS AND COMPONENTS | 2 |
| 1.8 PROJECT OR SITE ENVIRONMENTAL CONDITIONS | 2 |
| PART 2 PRODUCTS | 3 |
| 2.1 MATERIALS AND EQUIPMENT | 3 |
| 2.2 FABRICATION AND MANUFACTURE | 3 |
| PART 3 EXECUTION | 8 |

ATTACHMENTS

| <u>ATTACHMENT</u> | <u>TITLE</u> |
|-------------------|---------------------------|
| A | LAYOUT EXHIBITS (TYPICAL) |

U.S. DEPARTMENT OF ENERGY
 Hanford Waste Vitrification Plant
 Richland, Washington
 DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
 Advanced Technology Division
 Fluor Contract 8457

Rev. 0

1.6 SUBMITTALS

Submit the following in accordance with the Vendor Drawing and Data Requirements section of the Order/Subcontract.

1.6.1 Seller shall submit Certified Material Test Reports (CMTRs). These shall indicate that materials used for the application and removal of marking on corrosion-resistant, stainless steel and some nickel-based alloys shall be free of halides and low melting-point elements to the extent specified in Paragraph 2.1.1 B. Written certification by the manufacturer that their product does not exceed the halide and elemental content specified in Paragraph 2.1.1 B is acceptable and shall preclude the necessity for acceptance test of that product.

1.6.2 Seller shall submit qualification of the processes used for permanent marking. Tools used to apply permanent marking and the resultant mark shall be in accordance with the applicable requirements in Paragraph 2.2. To preclude repeated examination of production marking (except as specified in Paragraph 2.2.4), tools and sample markings made by said tools shall be examined to determine accordance with applicable requirements. Upon successfully testing the tool on the material to be marked, the process shall be qualified by Seller Quality Assurance for production use on an Inspection/Surveillance Report (ISR).

1.7 CLASSIFICATION OF SYSTEMS AND COMPONENTS

(Not Used)

1.8 PROJECT OR SITE ENVIRONMENTAL CONDITIONS

1.8.1 Climatic and Geographic Site Conditions

- | | | |
|----|--------------------------------|--------------------------|
| A. | Site Elevation | 714 feet above sea level |
| B. | Barometric Pressure | 14.3 psia |
| C. | Outside Design Temperature | |
| | 1) Maximum Design Temperature | 110°F |
| | 2) Minimum Design Temperature | -20°F |
| | 3) Wet Bulb Design Temperature | 68°F |

1.8.2 Operating Environment

- | | | |
|----|--------------------------|--------------|
| A. | Normal Temperature Range | 60° to 104°F |
| B. | Design Basis Temperature | 104°F |

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

C. Relative Humidity

Not controlled

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

2.1.1 Material Compatibility - Materials used for permanent or temporary marking or for the removal of markings shall be physically and chemically compatible with the material to which the markings will be applied or removed. The following shall be avoided:

- A. The use of dissimilar metals in permanent contact as defined in MIL-STD-889B.
- B. The use on corrosion-resistant, stainless steel and some nickel-base alloys of materials containing more than:
 - 1) one-half percent by weight of halides (chlorides and fluorides),
 - 2) one-half percent by weight of sulfur, and
 - 3) a sum total of one-half percent by weight of low melting-point elements such as cadmium, aluminum, lead, zinc and mercury.
- C. Permanent marking of critical stainless steel components using labels, tape, paint or other marking materials that could cause crevice corrosion.

2.2 FABRICATION AND MANUFACTURE

2.2.1 Requirements

2.2.1.1 Cleanliness - Surfaces to be marked shall be cleaned of oil, grease, dirt, corrosion or any other material that would adversely affect the application or adhesion of the marking.

2.2.1.2 Legibility - All markings shall be clearly legible. Color markings, including black and white, shall contrast with the color of the surface to which it is applied. Freehand lettering for the purpose of temporary marking shall be in the printed form and be uppercase (caps).

2.2.2 Permanent Identification Methods

- | | |
|--------|--|
| Type 1 | Vibratory Marking |
| Type 2 | Die Stamping |
| Type 3 | Raised marking forged or cast into the surface |
| Type 4 | Recessed marking forged or cast into the surface |

Type 5 Electrochemical etch
Type 6 Nameplate
Type 7 Self-adhesive label
Type 8 Painting
Type 9 Packaging
Type 10 Tagging

2.2.2.1 Type 1: Vibratory Marking - Vibrating tools shall be fitted with a carbide marking point or equivalent. Tools shall be adjusted to produce a shallow, rounded impression 0.003 to .101 inch in depth. The marking tool tip minimum radius shall be 0.005 inch. The size (height) of characters produced by vibratory marking shall be selected within the range of 1/16 to 1/2 inch.

2.2.2.2 Type 2: Die Stamping - Die stamps shall be low-stress type stamps. The minimum tip radius of the dies shall be in accordance with the following character sizes:

| CHARACTER SIZE (INCH) | MINIMUM TIP RADIUS (INCH) |
|-----------------------|---------------------------|
| 1/16 | 0.005 |
| 3/32 | 0.006 |
| 1/8 | 0.007 |
| 3/16 | 0.008 |
| 1/4 | 0.010 |
| 3/8 | 0.012 |
| 1/2 | 0.014 |

- A. Impression depth shall not exceed 0.10 inch.
- B. Die stamp marking shall be applied to a flange, an integrally-cast or forged boss or pad, the base or support of the item or other visible low-stress location.
- C. The material thickness of an item to be marked shall not be reduced by die stamping to less than the minimum specified on the component drawing or specification.

2.2.2.3 Types 3 and 4: Raised/Recessed Markings - Raised or recessed identification markings that are cast into the surface of the item are acceptable. Recessed markings shall not reduce the material thickness of an item to less than the minimum specified on the component drawing or specification. The size of forged or cast characters called out on the drawing or specification shall only be limited by the space available, but shall in no case be less than 0.09 inch in height.

2.2.2.4 Type 5: Electrochemical Etching - The electrolyte and neutralizer used for electrochemical etching shall be compatible with the material to be marked. The depth of etching shall be no greater

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

than 0.5 percent of the material thickness or 0.003 inch, whichever is less. The size of characters produced by electrochemical etching shall be selected within the range of 1/16 to 1/2 inch. However, the recommended minimum size is 0.1 inch to accommodate typing applications.

2.2.2.5 Type 6: Nameplates

- A. The physical requirements (e.g., material, nameplate dimensions, character size and arrangement) for metal nameplates shall either be detailed on the applicable drawing or specification; or defined by reference to an applicable nameplate standard, specification or drawing. Metal nameplates shall be austenitic stainless steel. They shall contain not less than the following information:

Equipment description
Purchase order number
Equipment item number
Seller's name (if different from manufacturer)
Manufacturer's name
Manufacturer's model number
Manufacturer's serial number
Rated capacity
Size and type
Year built
Project identification

A typical metal nameplate layout is shown in Attachment A.

- B. The attachment method and location on the item of either nameplate type shall be established on the basis of stress imposed on the item. The method shall consider possible crevice corrosion between the nameplate and the item surface. It shall also consider the radiation environment. When attached by welding, metal nameplates shall be welded in accordance with the welding requirements applicable to the item. If the welded nameplate is removed, the affected area shall be tested in accordance with the welding requirements applicable to the item.

2.2.2.6 Type 7: Self-Adhesive Labels - Self-adhesive labels may be used for identification provided they are in accordance with the requirements specified in Paragraph 2.1.1. When used to mark components in systems such as piping or electrical systems, or used as regulatory marking, self-adhesive labels shall be in accordance with applicable government, society or industry standards and codes. For example:

- A. When marking a piping system, a recognized standard such as ANSI A13.1 shall be specified on the applicable drawing/specification along with this specification section.
- B. If labels are used to identify system or component radiation hazards, a standard such as OSHA 29 CFR Section 1910.96 shall be specified on the applicable drawing/specification along with this specification section.

2.2.2.7 Type 8: Painting - Paints suitable for the purpose or as specified shall be used to apply stenciled markings to items (see Paragraphs 2.1.1 and 2.2.1.2). Stenciled markings may be applied using a template or silkscreen. The size of the stenciled characters specified on the drawing/specification shall be selected within the range of 1/3 to 3 inches. The color and type of paint to be used shall also be in accordance with the drawing/specification. Crafted (freehand sign painted) application of marking in lieu of stenciling is acceptable with due consideration being given to the higher cost involved.

2.2.2.8 Type 9: Packaging - Identical items too small to be identified individually may be packaged in a box or bag marked with the item identification as shown in Paragraph 2.2.2.9 A.

2.2.2.9 Type 10: Tagging

- A. Tags shall be austenitic stainless steel. They shall be impression-stamped with not less than the following information:

Purchase order number
Purchase order item number
Equipment item number

A typical tag layout is shown in Attachment A.

- B. Tags shall be attached to the component they identify with stainless steel wire. Tagging is done in addition to the equipment nameplate. Equipment shipped in fully-enclosed containers shall have the information from Attachment A clearly marked on the container exterior.
- C. Miscellaneous parts shall be tagged or marked with the equipment item number for which they are intended.
- D. Equipment which contains insulating oils, antifreeze solutions or other liquids shall be prominently tagged at every opening. Tags shall indicate the nature of the contents and precautions for shipping and storage.

2.2.3 Temporary Identification Methods

| | |
|--------|---------------------------------------|
| Type A | Rubber stamp and ink |
| Type B | Rubber roller or wheel and ink |
| Type C | Felt-tip marking pen |
| Type D | Removable self-adhesive label or tape |
| Type E | Label attached with removable tape |
| Type F | Removable tag |
| Type G | Packaging |
| Type H | Scribing tool |
| Type J | Paint stick |
| Type K | Metal tag |

- 2.2.3.1 Inks - Inks used for all type of temporary markings including felt-tipped pens, rubber stamps, rubber roller and rubber wheel shall be in accordance with the requirements of Paragraph 2.1.1 B.
- 2.2.3.2 Self-Adhesive Labels and Tape - The adhesives of self-adhesive labels and tape used for temporary marking shall be in accordance with the requirements of Paragraph 2.1.1.
- 2.2.3.3 Tagging - Items not suited for other methods of identification may be tagged. Tags and attaching materials shall be compatible with the item material in accordance with Paragraphs 2.1.1 A and 2.1.1 B. Materials used for temporary identification tagging shall be selected on the same basis as for permanent identification tagging (see Paragraph 2.2.2.9).
- 2.2.3.4 Packaging - Packaging requirements for temporary identification shall be the same as for permanent identification (see Paragraph 2.2.2.8).
- 2.2.3.5 Scribing Tool - Scribing tools may be used for temporary identification during fabrication or construction provided such marking is not applied to critical surfaces such as finished, machined or sealing surfaces.
- 2.2.3.6 Removal of Temporary Marking - All temporary marking shall be removed from stainless steel and corrosion-resistant material surfaces prior to fabrication operations which render markings inaccessible, prior to heat treatment and prior to post-manufacturing acceptance or post-installation acceptance, as appropriate. Ink markings and residue from tapes shall be removed using new or re-distilled alcohol or acetone. The removal of temporary markings shall assure cleanliness of the material and be in accordance with applicable cleanliness acceptance criteria.

9513336.0915

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

2.2.4 Testing

- 2.2.4.1 Visual Inspection - Item surfaces and marking shall be visually inspected to determine conformance with the applicable requirements specified in Paragraphs 2.2.1.1 and 2.2.1.2.**

PART 3 EXECUTION

(Not Used)

END OF SECTION

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

ATTACHMENT A
LAYOUT EXHIBITS (TYPICAL)

EXHIBIT 1. NAMEPLATE LAYOUT (TYPICAL)

| | |
|-----------------------|--------------|
| P.O. NUMBER | ITEM NUMBER |
| SERIAL NUMBER | MODEL NUMBER |
| EQUIPMENT DESCRIPTION | |
| MANUFACTURED BY | |
| SIZE | TYPE |
| RATED CAPACITY | YEAR BUILT |
| PROJECT | |

EXHIBIT 2. TAG LAYOUT (TYPICAL)

| |
|-----------------------|
| P.O. NUMBER |
| P.O. ITEM NUMBER |
| EQUIPMENT ITEM NUMBER |

9513336.0917

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

SECTION 16120
SOLDERING - ELECTRICAL
B-595-P-P06B-16120


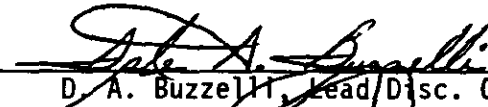
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REVISION 0
ISSUE DATE 4-6-93

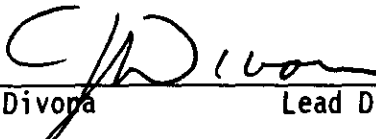
| | | | | |
|---------------|-----|----------|----|----------|
| WAPA | YES | ___ | NO | <u>X</u> |
| QUALITY LEVEL | I | ___ | II | <u>X</u> |
| SAFETY CLASS | 1 | ___ | 2 | ___ |
| | 3 | <u>X</u> | 4 | ___ |

ORIGINATOR:

CHECKER:

| | | | |
|---|----------------|--|----------------|
|  | <u>3/29/93</u> |  | <u>3-29-93</u> |
| A. Estrada, Welding Engineer | Date | D. A. Buzzelli, Lead Disc. Checker | Date |

APPROVED BY:

| | |
|---|----------------|
|  | <u>3/29/93</u> |
| C. J. Divora | Date |
| Lead Discipline Engineer | |

9513336.0918

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

SECTION 16120
SOLDERING - ELECTRICAL
B-595-P-P06B-16120

TABLE OF CONTENTS

| <u>PART</u> | | <u>PAGE</u> |
|---------------|--|-------------|
| PART 1 | GENERAL | 1 |
| 1.1 | SUMMARY | 1 |
| 1.2 | REFERENCES | 1 |
| 1.3 | RELATED REQUIREMENTS | 1 |
| 1.4 | DEFINITIONS | 1 |
| 1.5 | SYSTEM DESCRIPTION | 1 |
| 1.6 | SUBMITTALS | 1 |
| 1.7 | CLASSIFICATION OF SYSTEMS AND COMPONENTS | 2 |
| 1.8 | PROJECT OR SITE ENVIRONMENTAL CONDITIONS | 2 |
| PART 2 | PRODUCTS | 2 |
| 2.1 | MATERIALS AND EQUIPMENT | 2 |
| 2.2 | FABRICATION AND MANUFACTURE | 3 |
| PART 3 | EXECUTION | 4 |
| 3.1 | PREPARATION | 4 |
| 3.2 | INSTALLATION, APPLICATION AND ERECTION | 4 |
| 3.3 | FIELD QUALITY CONTROL | 5 |
| 3.4 | ADJUSTMENTS | 5 |
| 3.5 | CLEANING | 5 |
| 3.6 | PROTECTION | 5 |
| 3.7 | DEMONSTRATION | 6 |
| 3.8 | SCHEDULES | 6 |

SECTION 16120
SOLDERING - ELECTRICAL

PART 1 GENERAL

1.1 SUMMARY

This specification section defines the cleaning, soldering, examination and testing requirements for the electrical pin connectors.

1.2 REFERENCES

The publications listed below form a part of this specification section to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM B32 1989 Standard Specification for Solder Metal

MILITARY SPECIFICATION

MIL-T-13513B(AT) 1989 Terminals, Lugs and Splices, Conductor

1.3 RELATED REQUIREMENTS

(Not Used)

1.4 DEFINITIONS

NDE - Nondestructive Examination

1.5 SYSTEM DESCRIPTION

(Not Used)

1.6 SUBMITTALS

Submit the following in accordance with the Vendor Drawing and Data Requirements section of the Order/Subcontract.

1.6.1 Cleaning procedures shall be submitted for Buyer approval. These shall include precleaning and final cleaning of solder connections.

1.6.2 Soldering procedures shall be submitted for Buyer approval. A procedure shall be submitted for each type and size of electrical pin. Submittals shall include essential variables that are critical for a sound solder connection (i.e., soldering power

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

source, solder type, flux type, soldering technique,
nondestructive examination and mechanical testing).

- 1.6.3 Seller shall submit all nondestructive examination (NDE) and mechanical testing procedures that will be used during production. The procedure shall indicate sample test size and frequency of testing. Submit for Buyer approval.

1.7 CLASSIFICATION OF SYSTEMS AND COMPONENTS

(Not Used)

1.8 PROJECT OR SITE ENVIRONMENTAL CONDITIONS

(Not Used)

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

- 2.1.1 Acceptable soldering materials shall be Sn60 solder and RMA rosin flux. Solder material shall be in accordance with ASTM B32.
- 2.1.2 Solder and flux used in production soldering shall be the same brand solder and flux referenced in submitted soldering procedure.
- 2.1.3 Acceptable cleaning fluids used to remove flux on electrical connectors shall be as follows:

Mild soap and water
Mineral spirits
White kerosene
VM & P Naphtha
Heptane
Hexane
Methyl isopropyl alcohol
Methyl isobutyl alcohol
Petroleum ether
Formula 409 (Registered Trademark of the Clorox Company)
Joy (Registered Trademark of Proctor & Gamble)
Top Job (Registered Trademark of Proctor & Gamble)
Palmolive Liquid (Registered Trademark of Colgate Palmolive Company)
Windex with Ammonia D (Registered Trademark of the Drackett Products Company)

2.2 FABRICATION AND MANUFACTURE

- 2.2.1 Avoid heating entire pin during soldering. The connector shall be disconnected from the plug or receptacle during soldering.
- 2.2.2 Each soldering technician shall be assigned a symbol or number to identify his/her work. A record log may be kept in lieu of assigned symbols or numbers. Each soldered pin/connector shall be traceable to a qualified technician.
- 2.2.3 Procedure Qualification
 - 2.2.3.1 Seller shall develop a soldering procedure. The same type and size of electrical pins, power source, solder, flux and soldering technique used in production soldering shall be used to develop said procedure.
 - 2.2.3.2 Five test specimens shall be soldered for each procedure. The specimens shall be tested in accordance with Paragraphs 3.2.1 and 3.2.2. The procedure is qualified once all five specimens pass tests.
 - 2.2.3.3 Once production soldering is begun, any changes to the procedure shall require complete requalification.
- 2.2.4 Soldering Technician Certification
 - 2.2.4.1 Soldering technicians shall be certified in accordance with Buyer-approved soldering procedure. Technicians shall be certified for each type and size of electrical connector.
 - 2.2.4.2 Personnel certification shall include NDE and mechanical testing. During certification, mechanical testing of soldered connections shall be conducted until the technician can produce two consecutive electrical connections that do not contain any defects. NDE shall be in accordance with Paragraph 3.2.1. Mechanical testing shall be in accordance with Paragraph 3.2.2.
 - 2.2.4.3 A record of technician certification shall be made available upon Buyer request.
 - 2.2.4.4 At the request of the Buyer, any technician shall be tested and recertified when the work of the said technician creates a reasonable doubt as to the quality of his/her workmanship.
 - 2.2.4.5 Technicians shall be recertified if any essential variables are changed in the soldering procedure.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

PART 3 EXECUTION

3.1 PREPARATION

- 3.1.1 All dirt, oil, grease and contaminants detrimental to sound solder connection shall be removed from solder surface prior to soldering. Acceptable cleaning methods are hot solvent degreasing, cold liquid solvent immersion and hot alkali detergent degreasing. For alkali detergent method the connectors shall be steam or water-washed to remove all cleaning solution. Soft water is preferable to eliminate hard water deposit.

3.2 INSTALLATION, APPLICATION AND ERECTION

3.2.1 Nondestructive Examination

- 3.2.1.1 All soldered electrical connections shall be visually inspected.

- 3.2.1.2 An acceptable connection will have a shiny solder finish and display excellent wetting. Solder shall be wicked up the wire strand.

- 3.2.1.3 Unacceptable soldered connections will have the following characteristics:

- A. Dull solder finish (indicating a cold joint).
- B. Overheated or granular-looking joint.
- C. Pitted or porous joint.
- D. Rosin solder joints caused by rosin being trapped between the wire and connector.
- E. Contaminants in the solder.
- F. Fractured-looking joint.
- G. Insufficient solder in the joint.

3.2.2 Mechanical Testing

- 3.2.2.1 Mechanical testing of soldered electrical connections shall be implemented during soldering procedure qualification and technician certification.

3.2.2.2 Mechanical testing shall include:

- A. Sectioning the soldered electrical connection to ensure the solder is wicking up the wire strand, solder is wetted to the wire strand and electrical pin, and no voids exist.
- B. Tensile testing to ensure the strength of solder connection. The soldered electrical connection shall withstand the minimum mechanical load as specified in Table 1. Tensile testing to destruction is not required. Tensile testing machine shall be an Instron or equal.

**TABLE 1. MINIMUM MECHANICAL STRENGTH REQUIREMENTS
(VALUES IN ACCORDANCE WITH MIL-T-13513B(AT))**

| CABLE SIZE (AWG) | MINIMUM STRENGTH (POUNDS) | CABLE SIZE (AWG) | MINIMUM STRENGTH (POUNDS) |
|---------------------|---------------------------------|---------------------|---------------------------------|
| 20 | 19 | 6 | 270 |
| 18 | 28 | 4 | 350 |
| 16 | 37 | 2 | 555 |
| 14 | 45 | 1 | 650 |
| 12 | 95 | 0 | 760 |
| 10 | 150 | 00 | 860 |
| 8 | 195 | 0000 | 1000 |

3.3 FIELD QUALITY CONTROL

(Not Used)

3.4 ADJUSTMENTS

(Not Used)

3.5 CLEANING

(Not Used)

3.6 PROTECTION

(Not Used)

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U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

3.7 DEMONSTRATION

(Not Used)

3.8 SCHEDULES

(Not Used)

END OF SECTION

9513336.0925

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

SECTION 16151
MOTORS - INDUCTION FOR RADIOACTIVE SERVICE
B-595-P-P06B-16151

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REVISION
ISSUE DATE 0
4-6-93

| | | | | |
|---------------|-----|-----|----|----------|
| WAPA | YES | ___ | NO | <u>X</u> |
| QUALITY LEVEL | I | ___ | II | <u>X</u> |
| SAFETY CLASS | 1 | ___ | 2 | <u>X</u> |
| | | | 3 | <u>X</u> |
| | | | 4 | ___ |

ORIGINATOR:

CHECKER:

J. J. Ichkhan 3/30/93
J. J. Ichkhan, Mechanical Engineer Date

D. A. Buzzelli 3-30-93
D. A. Buzzelli, Lead Mech Checker Date

APPROVED BY:

C. J. Divona
C. J. Divona Lead Discipline Engineer

3/30/93
Date

SECTION 16151
MOTORS - INDUCTION FOR RADIOACTIVE SERVICE
B-595-P-P06B-16151

TABLE OF CONTENTS

| <u>PART</u> | | <u>PAGE</u> |
|---------------|--|-------------|
| PART 1 | GENERAL | 1 |
| 1.1 | SUMMARY | 1 |
| 1.2 | REFERENCES | 1 |
| 1.3 | RELATED REQUIREMENTS | 2 |
| 1.4 | DEFINITIONS | 2 |
| 1.5 | SYSTEM DESCRIPTION | 2 |
| 1.6 | SUBMITTALS | 2 |
| 1.7 | CLASSIFICATION OF SYSTEMS AND COMPONENTS | 3 |
| 1.8 | PROJECT OR SITE ENVIRONMENTAL CONDITIONS | 3 |
| PART 2 | PRODUCTS | 3 |
| 2.1 | MATERIALS AND EQUIPMENT | 3 |
| 2.2 | FABRICATION AND MANUFACTURE | 4 |
| 2.3 | COATINGS | 6 |
| 2.4 | LABELING | 6 |
| 2.5 | TESTING | 7 |
| 2.6 | PACKAGING | 7 |
| 2.7 | DELIVERY, STORAGE AND HANDLING | 8 |
| PART 3 | EXECUTION | 8 |

ATTACHMENTS

| <u>ATTACHMENT</u> | <u>TITLE</u> |
|-------------------|---|
| A | ELECTRIC MOTOR DATA SHEET |
| B | INSULATION RESISTANCE READINGS FOR ROTATING EQUIPMENT |

SECTION 16151
MOTORS - INDUCTION FOR RADIOACTIVE SERVICE

PART 1 GENERAL

1.1 SUMMARY

This specification section covers the technical requirements for polyphase induction motors ranging in size from 1/2 horsepower to 300 horsepower, for mechanical drive applications in a radioactive environment.

1.2 REFERENCES

The publications listed below form a part of this specification section to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D4082 1989 Standard Test Method for Effects of
Gamma Radiation on Coatings for Use in
Light Water Nuclear Power Plants

ANTI-FRICTION BEARING MANUFACTURERS ASSOCIATION (AFBMA)

AFBMA 9 1990 Load Ratings and Fatigue Life for
Ball Bearings

AFBMA 11 1990 Load Ratings and Fatigue Life for
Roller Bearings

INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE)

IEEE 43 1974 (Rev. 91) Recommended Practice for
Testing Insulation Resistance of Rotating
Machinery

IEEE 112 1984 Standard Test Procedure for Polyphase
Induction Motors and Generators

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA MG1 1987 (Rev. 89) Motors and Generators

NEMA MG2 1983 Safety Standard for Construction and
Guide for Selection, Installation and Use
of Electric Motors

NEMA MG13

1984 (Rev. 90) Frame Assignments for
Alternating Current, Integral-Horsepower
Induction Motors

STEEL STRUCTURES PAINTING COUNCIL (SSPC)

SSPC SP-6

1989 Surface Preparation Specification
Number 6, Commercial Blast Cleaning

1.3 RELATED REQUIREMENTS

Specification Section 01730 Operation and Maintenance Data

Specification Section 15196 Identification and Tagging Methods
for Mechanical Equipment

1.4 DEFINITIONS

MEV - Million Electron Volts
RAD - Roentgen Absorbed Dose
TENV - Totally Enclosed Non-Ventilated
TID - Total Integrated Dose

1.5 SYSTEM DESCRIPTION

(Not Used)

1.6 SUBMITTALS

Submit the following in accordance with the Vendor Drawing and
Data Requirements section of the Order/Subcontract.

1.6.1 Speed/torque and speed/current curves shall be submitted.

1.6.2 Seller shall complete Data Sheet DS-1 (Attachment A) for furnished
equipment. Seller shall complete insulation resistance readings
(Attachment B) for furnished electric motors. Both of these shall
be submitted.

1.6.3 Motor outline drawings, shaft dimensions and weight shall be
submitted.

1.6.4 Detail drawings of main and/or auxiliary junction boxes.

1.6.5 Operation and maintenance manuals shall be provided in accordance
with Specification Section 01730. Complete installation manuals
shall also be provided.

1.6.6 Motor test data in accordance with Paragraph 2.5.1.1 shall be
submitted.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

1.7 CLASSIFICATION OF SYSTEMS AND COMPONENTS

(Not Used)

1.8 PROJECT OR SITE ENVIRONMENTAL CONDITIONS

1.8.1 Climatic and Geographic Site Conditions

- | | | |
|----|--------------------------------|--------------------------|
| A. | Site Elevation | 714 feet above sea level |
| B. | Barometric Pressure | 14.3 psia |
| C. | Outside Design Temperature | |
| | 1) Maximum Design Temperature | 110°F |
| | 2) Minimum Design Temperature | -20°F |
| | 3) Wet Bulb Design Temperature | 68°F |
| D. | Operating Environment | |
| | 1) Normal Temperature | 60° to 104°F |
| | 2) Maximum Temperature | 104°F |
| | 3) Relative Humidity | Not controlled |

- | | | |
|-------|-----------------|---|
| 1.8.2 | Radiation Level | 3 x 10 ⁸ rads (TID) over 10 years |
|-------|-----------------|---|

Intermittent radiation absorbed dose rate levels up to a maximum of 1100 rads/hr are encountered from sources emitting gamma radiation at an average energy level of 0.7 MEV.

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

The following requirements apply to all electric motors in radioactive service furnished in accordance with this specification section.

GENERAL REQUIREMENTS

Electric motors and motor accessories furnished in accordance with this specification section shall be in full compliance with NEMA MG1, NEMA MG2 and NEMA MG13 standards.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

A. Motor Rating

Seller shall be fully responsible for specifying electric motor horsepower, speed and torque characteristics for each motor furnished as part of Seller's driven equipment package. The motor shall be for severe duty application.

B. Electrical Power Supply

Motors 1/2 HP and larger furnished in accordance with this specification section shall be designed for 480V/3 Phase/60 Hz power supply. Where motors are constant speed they shall be designed for full voltage across the line starting and rated for continuous duty. In applications where the driven equipment calls for variable speed the electric motor shall be a variable-speed squirrel cage induction motor controlled by a variable-frequency drive. Power junction box shall be rotatable by 90° in each direction. Variable frequency starters for variable speed motors shall be provided by others.

C. Grounding

Each electric motor shall include provisions for motor frame grounding. The ground shall utilize a hex-head bolt tapped into the motor frame from within the main junction box.

D. Space Heaters

Electric motor space heaters shall not be provided unless otherwise specified by the driven equipment specifications and/or Contract Drawings.

E. Elastomers

For electric motor applications in radioactive service, elastomers shall be compounded from materials used in severe duty application. Motor life expectancy shall be not less than ten (10) years. The use of fluoroelastomers, ethylene-propylene (EPDM) and/or polyvinyl elastomers shall not be permitted.

2.2 FABRICATION AND MANUFACTURE

2.2.1 Electric motors furnished in accordance with this specification section shall be in accordance with NEMA MG1.

A. Service Factor

Electric motors shall be designed and selected with a service factor of 1.15 for polyphase motors and 1.25 for single-phase

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

motors unless otherwise established by the driven equipment specifications and/or Contract Drawings.

- B. High-efficiency motors shall be used for motors of 5 HP and larger.

- C. Insulation

Insulation systems for motors in general service shall be Class F or better in accordance both with NEMA MG1 and NEMA MG2. Motor leads shall be copper with compression lugs, both sized for 125 percent load current at motor cooling air discharge temperature.

- D. Temperature Rise

Temperature rise in accordance with NEMA MG2 shall not be greater than Class F, 165°C total temperature rise, with 40°C ambient temperature.

- E. Enclosure

Enclosure shall be totally enclosed non-ventilated (TENV).

- F. Seals

Motors shall be equipped with suitable shaft seals. These seals shall prevent moisture, dirt and corrosive agents from entering the motor enclosure and bearings along the shaft.

2.2.2 Bearings

- A. For motor applications within a radiation environment as indicated by the driven equipment specifications and/or Contract Drawings, motor bearing housings shall be designed to be open bearings. The motor end bells shall be equipped with grease fittings and purge ports for expelled grease.
- B. Antifriction bearings shall be in accordance both with AFBMA 9 and AFBMA 11. Each electric motor nameplate shall show the data required by NEMA MG1. Front and rear AFBMA bearing part numbers shall be included.
- C. Both ball and roller bearings shall be designed and constructed for 100,000 continuous hours, L-10 minimum life specified service in accordance both with AFBMA 9 and AFBMA 11. Design shall be based on continuous service.
- D. Extended bearing life periods, when required, shall be in accordance either with the driven equipment specifications and/or Contract Drawings.

- E. Grease used for lubrication shall be of the radiation-resistant type (Chevron SRI NLG12 or approved equal).

2.2.3 Balancing and Vibration Criteria

- A. Motors shall be dynamically balanced. Welding or soldering to effect balancing is unacceptable. Parent metal shall be removed to improve balance without affecting the structural strength of the rotating element.
- B. Maximum vibration amplitude (peak-to-peak) as measured on the rotor shaft shall be in accordance with the following range to provide a smooth condition:

| RPM | VELOCITY (IN/SEC) | INCHES (PEAK-TO-PEAK) |
|--------------|-------------------|-----------------------|
| 3600 | 0.0098 - 0.0196 | 0.000052 - 0.0001 |
| 1800 | 0.0098 - 0.0196 | 0.0001 - 0.0002 |
| 1200 | 0.0098 - 0.0196 | 0.00017 - 0.0003 |
| 900 and less | 0.0098 - 0.0196 | 0.0002 - 0.0004 |

For vibration amplitude measurements, motors shall be operated at rated operating speed and frequency with a one-half key installed in the key seat. Motors shall be mounted on isolators during vibration amplitude measurements in accordance with NEMA MG1.

2.3 COATINGS

After completion of all fabrication procedures the external surfaces of each electric motor shall be thoroughly cleaned of all foreign material, including rust, in accordance with SSPC SP-6. Primer and finish paint or coatings shall be in accordance with ASTM D4082. Stainless steel, nickel, brass, copper, monel, aluminum, hastelloy, lead, galvanized steel, plastics, elastomers and glass surfaces shall not be painted unless specified otherwise.

2.4 LABELING

Labeling shall be in accordance with Specification Section 15196, Paragraph 2.2.2, Type 6. This shall be in addition to the manufacturer's identification plate.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

2.5 TESTING

2.5.1 Source Testing

2.5.1.1 Motor Manufacturer Tests

Each electric motor furnished in accordance with this specification section shall be tested by the motor manufacturer prior to shipment. These tests shall include (but not be limited to):

A. High-Potential Tests in accordance with NEMA MG1, Part 3.

B. Routine tests in accordance with IEEE 112.

Seller shall submit copies of motor manufacturer's motor test results.

2.5.1.2 Resistance Tests

Seller shall subject all electric motors furnished in accordance with this specification section to insulation resistance tests in accordance with IEEE 43. Insulation resistance measured during these tests shall be not less than 5 megohms. Seller shall submit copies of insulation resistance readings (Attachment B) for each electric motor furnished. These tests shall be done prior to shipping.

2.5.1.3 Performance Test

All required electric motor performance tests shall be conducted in accordance with the applicable driven equipment specification and the performance testing referenced in Section 3 of IEEE 112 and NEMA MG1 Part 12.

2.6 PACKAGING

2.6.1 Preparation for shipment and packaging may be in accordance with manufacturer's standards. At minimum, the packaging shall provide protection against corrosion and damage from normal handling and storage. Minimum preparation shall include the requirements listed below.

2.6.1.1 Machined surfaces, threads, bearings and bearing housings shall be protected during shipment by application of grease or other suitable rust-inhibiting compound.

2.6.1.2 Threaded connections and tapped holes shall be capped or plugged to prevent damage. Compatible materials shall be used.


Rev. 0

- 2.6.1.3 The motor shall be fully-protected against moisture penetration to the electrical compartments and winding.
- 2.6.1.4 Bracing, supports and rigging connections shall be provided to prevent damage during shipment, lifting and unloading.
- 2.6.1.5 Mechanical seals and other sealing devices shall be installed prior to shipment.
- 2.6.1.6 Separate or loose parts shall be completely boxed and attached to the main item to be shipped as a unit. All shipping boxes shall be identified by Seller's order number, equipment number and equipment description. The boxes shall be labeled with ink, paint or other indelible material.
- 2.7 DELIVERY, STORAGE AND HANDLING
 - 2.7.1 All equipment shall be delivered in the manufacturer's original unopened protective packaging.
 - 2.7.2 The equipment shall be stored and handled in such a manner as to keep it clean and free from damage and/or deterioration.

PART 3 EXECUTION

(Not Used)

END OF SECTION

|  FLUOR DANIEL DATA SHEET U.S. Department of Energy Hanford Waste Vitrification Plant Richland, Washington DOE Contract DE-AC06-86RL10838 ELECTRIC MOTORS IN RADIOACTIVE SERVICE | | NO. △ | BY DATE | REVISION | | | SHEET NO. P088-DS-1 | | REV. 0 |
|---|-----------------|----------|------------|----------|------------------------------------|----------|------------------------|---|-----------|
| | | | | | DATE | CONTRACT | | | |
| | | | | | TAG NO. | | | | |
| | | | | | SPECIFICATION SECTION NO. 16151 | | | | |
| | | | | | FOR CLIENT USE | | | | |
| | | | | | ORIG | CHK'D | APPR'D | | |
| ALL ITEMS SHALL COMPLY WITH GENERAL SPECIFICATION SHEETS: | | | | | | | | | |
| Motor Tag Number(s) | / | / | / | / | / | / | / | / | / |
| Manufacturer/Serial No. | / | / | / | / | / | / | / | / | / |
| Power Rating KW/HP | | | | | | | | | |
| Service Factor | / | / | / | / | / | / | / | / | / |
| Speed Synch./Full Load, RPM | | | | | | | | | |
| Bearing Type | | | | | | | | | |
| BEARING LUBRICATION | | | | | | | | | |
| Voltage, Phase, Frequency | | | | | | | | | |
| Full Load Current AMP | | | | | | | | | |
| Locked Rotor Current 100%V/80V | / | / | / | / | / | / | / | / | / |
| Acceleration Time (incl Load) 100%V/80%V | / | / | / | / | / | / | / | / | / |
| Locked Rotor Stall Time (Cold), Seconds | | | | | | | | | |
| Locked Rotor Stall Time (Hot) 100%V/80%V | / | / | / | / | / | / | / | / | / |
| Locked Rotor Torques (% FL) | | | | | | | | | |
| Breakdown Torque (% FL) | | | | | | | | | |
| Efficiency | A. Full Load | | | | | | | | |
| | B. 3/4 Load | | | | | | | | |
| | C. 1/2 Load | | | | | | | | |
| Power Factor | A. Full Load | | | | | | | | |
| | B. 3/4 Load | | | | | | | | |
| | C. 1/2 Load | | | | | | | | |
| | D. Locked Rotor | | | | | | | | |
| Sound Pressure Level at 1/Meter in DBA | | | | | | | | | |
| Space Heaters Volts/Phase/Watts | / | / | / | / | / | / | / | / | / |
| Rotation (Facing End Opposite Drive Shaft) | | | | | | | | | |
| Insulation | | | | | | | | | |
| Enclosure Type/Motor Mounting (H or V) TENV | / | / | / | / | / | / | / | / | / |
| Frame | | | | | | | | | |
| Net weight Kg/LBSA | / | / | / | / | / | / | / | / | / |
| REVISION | | | | | | | | | |
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U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

SECTION 16610
ELECTRICAL REQUIREMENTS FOR PACKAGED EQUIPMENT
B-595-P-P06B-16610

APPROVED FOR CONSTRUCTION

REVISION 0
ISSUE DATE 4-6-93

| | | | | |
|---------------|-----|-------------|----|-------------|
| WAPA | YES | <u> </u> | NO | <u>X</u> |
| QUALITY LEVEL | I | <u> </u> | II | <u>X</u> |
| SAFETY CLASS | 1 | <u> </u> | 2 | <u> </u> |
| | | | 3 | <u>X</u> |
| | | | 4 | <u> </u> |

ORIGINATOR:

CHECKER:

A. LARSEN 3-23-93
A. Larsen, Electrical Engineer Date

Abe Talebi 3-23-93
Abe Talebi, Electrical Engineer Date

APPROVED BY:

K. A. Owrey
K. A. Owrey Lead Discipline Engineer

3-23-93
Date

9513336.0938

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Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

SECTION 16610
ELECTRICAL REQUIREMENTS FOR PACKAGED EQUIPMENT
B-595-P-P06B-16610

TABLE OF CONTENTS

| <u>PART</u> | | <u>PAGE</u> |
|---------------|---|-------------|
| PART 1 | GENERAL | 1 |
| 1.1 | SUMMARY | 1 |
| 1.2 | REFERENCES | 1 |
| 1.3 | RELATED REQUIREMENTS | 2 |
| 1.4 | DEFINITIONS | 2 |
| 1.5 | SYSTEM DESCRIPTIONS | 2 |
| 1.6 | SUBMITTALS | 3 |
| 1.7 | CLASSIFICATIONS OF SYSTEMS AND COMPONENTS | 4 |
| 1.8 | PROJECT OR SITE ENVIRONMENTAL CONDITIONS | 4 |
| PART 2 | PRODUCTS | 4 |
| 2.1 | MATERIALS AND EQUIPMENT | 4 |
| 2.2 | FABRICATION AND MANUFACTURE | 9 |
| PART 3 | EXECUTION | 12 |

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

SECTION 16610
ELECTRICAL REQUIREMENTS FOR PACKAGED EQUIPMENT

PART 1 GENERAL

1.1 SUMMARY

This specification covers the general requirements for the fabrication, testing and inspection of the electrical materials and devices furnished as part of the pour and drain turntables.

1.2 REFERENCES

The publications listed below form a part of this specification section to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

| | |
|-----------------|--|
| ASTM A167 | 1991 Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet, and Strip |
| ASTM A193/A193M | 1991 Standard Specification for Alloy-Steel and Stainless Steel Bolting Materials for High-Temperature Service |
| ASTM A194/A194M | 1991 Standard Specification for Carbon and Alloy Steel Nuts for Bolts for High-Pressure and High-Temperature Service |
| ASTM A269 | 1990 Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service |
| ASTM B355 | 1990 Standard Specification for Nickel-Coated Soft or Annealed Copper Wire |
| ASTM D1418 | 1990 Standard Practice for Rubber Lattices Nomenclature |

MILITARY SPECIFICATION (MIL)

| | |
|--------------|---|
| MIL-W-81381A | 1976 Wire, Electric, Polyamide-Insulated Copper or Copper Alloy |
|--------------|---|

NATIONAL ELECTRIC MANUFACTURERS ASSOCIATION (NEMA)

| | |
|----------|---|
| NEMA 250 | 1985 Enclosures for Electrical Equipment (1000 Volts Maximum) Revision 2 - 1988 |
|----------|---|

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70 1990 National Electrical Code (NEC)

UNDERWRITERS LABORATORIES, INC. (UL)

UL 50 1990 Cabinets and Boxes

UL 486A 1989 Wire Connectors and Soldering Lugs
for Use with Copper Conductors

WESTINGHOUSE DRAWINGS

| | |
|---|---|
| Drawing Number H-2-83399 | Assembly Upper Electrical Equipment Connector |
| Drawing Number H-2-83400 | Upper Electrical Connector Components (Floating Pins) |
| Drawing Number H-2-83401 | Lower Electrical Connector Components (Floating Pins) |
| Drawing Number H-2-83402 (Sheets 1, 2 and 3) | Electrical Equipment Connector Parts |

1.3 RELATED REQUIREMENTS

| | |
|-----------------------------|--|
| Specification Section 01730 | Operation and Maintenance Data |
| Specification Section 14601 | Pour Turntable |
| Specification Section 14602 | Drain Turntable |
| Specification Section 16120 | Soldering - Electrical |
| Specification Section 17857 | Local Control Panels for Pour and Drain Turntables |

1.4 DEFINITIONS

(Not Used)

1.5 SYSTEM DESCRIPTIONS

1.5.1 All electrical materials and devices as specified in this section, as shown on the Contract Drawings, and listed in pour and drain turntables Specification Sections 14601 and 14602 shall be supplied by the Seller.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

1.5.2 Power Supply

1.5.2.1 Buyer will supply the variable frequency reversing controllers to be installed at Hanford Waste Vitrification Plant (HWVP) for the pour and drain turntables rotational drive motors and linear drive motors.

1.5.2.2 The variable frequency controllers shall utilize 4-20 ma speed control signal input from Control Panels LP-130-001 and LP-130-002. 4 ma corresponds to minimum speed and 20 ma corresponds to maximum speed.

1.5.2.3 Buyer will provide one N.O. and one N.C. auxiliary contact each for the controllers forward and reverse operation to be used for motor controls specified in Section 17857.

1.5.2.4 Buyer will provide control power transformer in each motor controller compartment providing 120 vac for motor control circuitry.

1.5.2.5 Buyer will provide one or more 120 volt single phase feeders, as required, to furnish power to electrical controls and instrumentation.

1.6 SUBMITTALS

Submit the following in accordance with the Vendor Drawing and Data Requirements section of the Order/Subcontract, unless otherwise noted, for Buyer's review and approval.

1.6.1 Dimensional outline drawing for Buyer's review showing the location of all major electrical equipment, including pull boxes, and junction boxes with all the applicable device ratings. Conduit routing and connections to the lower electrical connectors shall be shown.

1.6.2 Detailed bills of material for Buyer's review including name of the manufacturer and catalog number of all electrical components.

1.6.3 Certified factory test report for Buyer's review in accordance with the testing paragraph of this section.

1.6.4 Manufacturer's installation instructions for Buyer's review.

1.6.5 Test procedures for Buyer's approval for all tests specified in this specification section.

1.6.6 Manufacturer's procedures for field testing for Buyer's review.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

1.6.7 Assembly procedures for Buyer's approval of the electrical connector assemblies. As a minimum, procedures shall be in accordance with Westinghouse Drawings H-2-83399, H-2-83400, H-2-83401 and H-2-83402 and shall include the following:

1.6.7.1 Wire preparation - stripping, cutting, and cleaning;

1.6.7.2 After solder cleaning;

1.6.7.3 Heat shrink tubing installation;

1.6.7.4 Pin, socket and connector assembly;

1.6.7.5 Continuity testing.

1.6.8 Electrical operation and maintenance data in accordance with Specification Section 01730, Operation and Maintenance Data.

1.7 CLASSIFICATIONS OF SYSTEMS AND COMPONENTS

(Not Used)

1.8 PROJECT OR SITE ENVIRONMENTAL CONDITIONS

1.8.1 Climatic and Geographic Site Conditions

A. Site Elevation 714 feet above sea level

B. Barometric Pressure 14.3 psia

1.8.2 Operating Environment

A. Normal Temperature 60°F to 104°F

B. Maximum Temperature 104°F

C. Relative Humidity Not Controlled

D. Radiation Level 3x10⁸ Rads
Total Integrated Dose (TID),
10 years

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

2.1.1 General

2.1.1.1 When applicable, all electrical materials and equipment shall be listed by Underwriter's Laboratories and shall bear the UL label.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

- 2.1.1.2 When two or more components of the same specifications are required, the components shall be identical having the same manufacturer and catalog number.
- 2.1.2 Conduit
 - 2.1.2.1 Conduit shall be stainless steel tubing type 304L in accordance with ASTM A269.
- 2.1.3 Stainless Steel Flexible Conduit
 - 2.1.3.1 Stainless steel flexible conduit shall be Titeflex Industrial Americas Type S81 stainless steel corrugated hose or equal.
- 2.1.4 Pull Boxes/Terminal Boxes
 - 2.1.4.1 Pull boxes shall be NEMA 4X in accordance with NEMA 250 and sized in accordance with the National Electrical Code. Boxes and box covers shall be fabricated in accordance with UL 50 from stainless steel Type 304L in accordance with ASTM A167. Terminal boxes shall contain a back panel for terminal and ground bar mounting. Gaskets shall be fabricated from peroxide cured EPDM. EPDM shall be in accordance with ASTM D1418.
- 2.1.5 Fittings
 - 2.1.5.1 Fittings shall be for use with stainless steel tubing. Stainless steel fittings shall be type 304L.
- 2.1.6 Miscellaneous Hardware
 - 2.1.6.1 All conduit straps, conduit clamps, preformed channel shall be stainless steel Type 304 or 316. Screws and bolts shall be Class 1 Grade B8M in accordance with ASTM A193/A193M. Nuts shall be Grade 8M in accordance with ASTM A194/A194M.
- 2.1.7 Cable
 - 2.1.7.1 General Requirements
 - 2.1.7.1.1 Cable supplied shall be new, shall be the product of an established manufacturer normally engaged in the production of cable with a minimum of 5 years documented experience, and shall be that manufacturer's newest product.
 - 2.1.7.1.2 Cable shall be continuous. Factory splices or factory repairs are not acceptable in individual conductors. Cable shall be free of abrasions.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

2.1.7.2 Single Conductor 600 Volt Power Cable - Radiation Resistant

2.1.7.2.1 Cables herein specified shall be single conductor, 600 volts, 200°C in accordance with the Military Specification MIL-W-81381A and Specification Sheet MIL-W-81381/12C.

2.1.7.2.2 Conductor

Conductor shall be nickel coated, annealed copper in accordance with ASTM B355. Stranding shall be in accordance with Table II of Specification MIL-W-81381A.

2.1.7.2.3 Insulation

The insulation shall be 200°C Kapton Polyimide or equal and in accordance with MIL-W-81381/12C.

2.1.7.2.4 Cable Marking

The surface of the insulation shall have a durable marking, at intervals not exceeding 24 inches, which shall consist of: manufacturer's name, number and size of conductors, voltage rating, cable type(s), and temperature rating.

2.1.7.3 Multiconductor Cable Reel Power Cable - Radiation Resistant

2.1.7.3.1 General

Cable shall be 20 conductor #12 AWG. Each individual cable included in the multiconductor construction shall have conductor and insulation in accordance with the Single Conductor 600 Volt Power Cable-Radiation Resistant paragraph of this section.

2.1.7.3.2 Assembly

Conductors shall be twisted with a left-hand lay no greater than 15 times the core diameter by the planetary method.

2.1.7.3.3 Overall Jacket

Jacket shall consist of one layer of 3 to 5 mils teflon impregnated glass barrier tape wrapped with a minimum of 50% overlap, a second layer of 250FN029 Kapton tape or equal wrapped in the reverse direction of the first layer with a 20% overlap and a third layer of 150FN019 Kapton tape or equal wrapped in the reverse direction of the second layer with a 50% overlap.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

2.1.7.3.4 Cable Marking

The cable jacket shall be identified. The marking shall consist of: manufacturer's name, number and size of conductors, voltage rating, cable type(s), and temperature rating.

2.1.7.4 Instrument Cable Type DL - Radiation Resistant (as shown on Contract Drawings)

- A. Cable shall be 4 #16 AWG, individually twisted pair with overall shield and 18 AWG drain wire. Conductors and drain wire shall be nickel coated annealed copper in accordance with ASTM B355. Stranding shall be in accordance with Table II of specification MIL-W-81381A.
- B. 600 V primary insulation shall be constructed of one layer of 250FN029 Kapton film or equal, with a minimum of 50% overlap and a second layer of 120FN616 Kapton film or equal with a minimum of 50% overlap.
- C. Cable shield shall provide 100 percent coverage by a Kapton polyimide-aluminum or equal laminate tape shield, helically applied over the twisted pairs with the aluminum on the inside in continuous contact with the drain wire. Tape shall be 1 mil Kapton or equal and 1 mil aluminum and applied with a 30% minimum overlap.
- D. Jacket shall consist of one layer of 3 to 5 mils teflon impregnated glass barrier tape wrapped with a minimum of 50% overlap, a second layer of 250FN029 Kapton tape or equal wrapped in the reverse direction of the first layer with a minimum of 20% overlap and a third layer of 150FN019 Kapton tape or equal wrapped in the reverse direction of the second layer with a 50% overlap.
- E. Lay of twist shall be 2 inches maximum.
- F. Each twisted pair shall contain one black and one white conductor.

2.1.7.5 600 Volt Power Cables - Standard

2.1.7.5.1 Power cables in associated panels shall be #12 AWG minimum, stranded copper, 600 volt, 90°C and UL listed.

2.1.7.6 600 Volt Control Cable - Standard

2.1.7.6.1 Control wiring in associated panels shall be #14 AWG minimum, stranded copper, 600 volt, 90°C and UL listed. Associated panels are specified in Section 17857.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

2.1.8 Heat Shrink Products

2.1.8.1 Heat shrink tubing shall be rated for 1000 volts, radiation-resistant and flame retardant. Ray Chem WCSF-N or equal.

2.1.9 Adhesive Tape

2.1.9.1 Adhesive tape for insulation shall be rated for 1000 volts, radiation resistant, and flame retardant. Ray Chem S1119 or equal.

2.1.9.2 Color coding tape shall be 1/2 inch wide vinyl plastic type. Plymouth 3165 or equal.

2.1.10 Terminals

2.1.10.1 Terminals for radiation resistant 10 AWG cable or smaller shall be uninsulated ring, crimp type and in accordance with UL486A. Thomas and Betts B14 series or C10 series or equal.

2.1.10.2 Terminals for standard cable shall be ring tongue, nylon, self-insulated, compression type. Terminals shall be in accordance with UL 486A. Thomas and Betts series RB and RC or equal.

2.1.11 Identification

2.1.11.1 Wire and Cable

2.1.11.1.1 Identification of radiation resistant control and power circuit cable shall be by means of heat shrinkable, insulated tubing with circuit number identification by printed characters on white heat shrink sleeve; Ray Chem NTMS or equal.

2.1.11.1.2 Identification of standard control and power circuit cable shall be by means of heat shrinkable tubing with circuit number identification by heat impressed black characters on white sleeve. Thomas and Betts Catalog Number WHT-700 or equal.

2.1.12 Grounding Conductors

The electrical equipment ground conductors shall be continuous insulated copper cable, sized as indicated on the Contract Drawings. Cable shall be 600 volt power cable, standard or radiation resistant, as defined in this specification section.

2.1.13 Terminal Blocks - Radiation Resistant

Terminal blocks shall be channel mounting type rated 500 volts with locking screws and pressure plate. Insulation shall be radiation resistant, high temperature type. Phoenix Catalog No. SSK 0525 KER-EX-1E or equal.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

2.1.14 Terminal Blocks - Standard

Terminal blocks shall be channel mounting type rated 600 volts, with screw type terminals on both sides. Buchanan catalog number P0721 or equal.

2.1.15 Cable Fittings

The cable reel cable connection to the upper electrical connector shall combine a cord connector and mesh grip both made of stainless steel. The fitting shall be UL listed, Kellems stainless steel deluxe cord, Hubbel Catalog Number CGXXXXXX or equal.

2.1.16 Ground Bus

Ground Bus shall have 7 terminals capable of accepting #8 AWG maximum. General Electric catalog number TGL3 or equal.

2.2 FABRICATION AND MANUFACTURE

2.2.1 Assembly

2.2.1.1 Electrical installation shall be in accordance with NFPA 70.

2.2.1.2 Conduit

2.2.1.2.1 Pull boxes and terminal boxes shall be supported independently of the conduit system.

2.2.1.2.2 All conduit connections shall be as shown on the contract drawings.

2.2.1.2.3 Before making up conduit runs, the interiors of all conduit, conduit bends, and fittings shall be free of all burrs and sharp edges, dirt, cuttings, and other foreign material.

2.2.1.2.4 Minimum conduit size shall be 3/4 inch.

2.2.1.2.5 Flexible conduit shall be used to avoid transmission of vibration from vibrating equipment to conduit system.

2.2.1.3 Cable

2.2.1.3.1 Wire and cable shall not be pulled until the raceway system is complete from pull point to pull point.

2.2.1.3.2 Care shall be exercised while installing wire in conduits so as not to damage the conductor insulation.

- 2.2.1.3.3 Cable as it is pulled, shall be visually inspected by the Seller. Cables with abrasions, abnormalities or lumps are not to be used.
- 2.2.1.3.4 Cables shall be pulled into conduits in such a manner as to avoid sharply bending or kinking conductor, damaging or stressing insulation. Minimum cable bending radius shall not be smaller than that specified by the manufacturer.
- 2.2.1.3.5 Wire sizes shall be as shown on the Contract Drawings.
- 2.2.1.3.6 Cable terminations shall be made in accordance with the Contract Drawings. Control panel cable terminations shall be made in accordance with Section 17857.
- 2.2.1.3.7 All wiring shall be continuous from terminal to terminal without splices.
- 2.2.1.3.8 Radiation resistant cable shall be used from the electrical connector assemblies to all equipment shown on the Contract Drawings. Standard cable shall be used for control panels specified in Section 17857.
- 2.2.1.3.9 Slack cable shall be left in cable reel connection to engage wire grip without tension on cable termination.
- 2.2.1.3.10 Cable fittings with grips shall be used at cable reel cable terminations. Slack cable shall be left between the cable grip and termination point to minimize strain on individual conductors.
- 2.2.1.4 Pull boxes shall be used instead of fittings. Pull box covers shall be attached with screws.
- 2.2.1.5 Identification
 - 2.2.1.5.1 Conductors shall be identified at each end and in pull boxes with heat shrinkable tubing. Identification inscription shall be by individual and distinctive numbers for each conductor as indicated on the Contract Drawings. Control panel conductor numbers shall be in accordance with Section 17857.
 - 2.2.1.5.2 Conduits

Conduits shall be identified on both ends with identification numbers as shown on the Contract Drawings. 1/2 inch numbers shall be permanently stencilled on conduit.
 - 2.2.1.5.3 Pull Boxes/Terminal Boxes

Identification number, where indicated on the Contract Drawings, shall be permanently stencilled on the box cover and box side. Height of numbers shall be one inch.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

2.2.1.6 Terminal Blocks

2.2.1.6.1 Radiation resistant terminal blocks shall be used in terminal boxes shown on the Contract Drawings. Standard terminal blocks shall be used for control panels specified in Section 17857. Provide a minimum of 20 percent spare terminal blocks.

2.2.1.6.2 Ring type terminal shall be used at device connection and standard type terminal blocks. Termination at radiation type terminal blocks in junction boxes shall be in accordance with manufacturer's recommendation.

2.2.1.7 Power Cable Color Coding

2.2.1.7.1 Conductors for 480 volt, three phase systems shall be color coded as follows: Phase A (brown), Phase B (orange), Phase C (yellow), grounding conductor (green). Color coding shall be either by pigmented insulation or by application of colored adhesive tape.

2.2.1.7.2 Conductors for 208/120 volt, three phase systems will be color coded as follows: Phase A (black), Phase B (red), Phase C (blue), grounded neutral (white) grounding conductor (green). Color coding shall be either by pigmented insulation or by application of colored adhesive tape.

2.2.1.7.3 Conductors for direct current systems shall be color coded as follows: positive (red), negative (black).

2.2.1.8 Soldering

Wire to pin connector soldering shall be in accordance with Specification Section 16120.

2.2.2 Testing

2.2.2.1 General

2.2.2.1.1 Furnish all materials, power supplies, motor controllers and test equipment required to perform tests, checks, inspections and the Factory Acceptance Tests in accordance with this specification section. Seller has the option of using equipment in his possession with valid National Institute of Standards and Technology (NIST) Certification of equipment or can use the service of a testing lab with valid National Bureau of Standards Certification of equipment.

2.2.2.1.2 The calibrating and testing equipment used for tests, checks, inspections and Factory Acceptance Test shall be calibrated within six months prior to testing. Seller shall provide proof of calibration.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

- 2.2.2.1.3 Equipment failing the standards test shall not be used until repaired and re-standardized. All calibrating and testing equipment shall have valid certified label affixed to the equipment during usage. The label shall be affixed in a prominent location. The Buyer can, at his discretion, require the calibrating and testing equipment to be checked to the standards. Standards must not be used as calibration and testing devices in the field.
- 2.2.2.1.4 Seller shall be responsible for ensuring that the accuracy of the testing equipment is equal to (or better) than the accuracy of the equipment to be calibrated/tested.
- 2.2.2.1.5 Buyer shall be informed in advance of the date that all factory tests are to be conducted. Buyer reserves the right to attend and witness all factory tests.

2.2.2.2 Wire and Cable Continuity Tests

- A. Test for continuity and correctness of wiring and verify correct identification on all conductors installed.
- B. Test shall be made with an ohmmeter.

2.2.2.3 Insulation Resistance Test

- A. All conductors shall be given an insulation resistance test using a megohmmeter.
- B. Tests for each circuit shall be made between one conductor and ground with the other conductors grounded. Each conductor shall be tested in the same manner.
- C. Test voltages and minimum acceptable insulation resistance shall be as follows:

| <u>Insulation Voltage</u> | <u>Test Voltage</u> | <u>Min. Insulation Resistance</u> |
|---------------------------|---------------------|-----------------------------------|
| 600 volt ac | 1000 Vdc | 10 megohms |

- 2.2.2.3.1 Test reports shall be submitted to Buyer.

PART 3 EXECUTION

(Not Used)

END OF SECTION

SECTION 17857
LOCAL CONTROL PANELS FOR POUR AND DRAIN TURNTABLES
B-595-P-P06B-17857

APPROVED FOR CONSTRUCTION

REVISION 0
ISSUE DATE 4-6-93

| | | | | |
|---------------|-----|----------|----|----------|
| WAPA | YES | ___ | NO | <u>X</u> |
| QUALITY LEVEL | I | ___ | II | <u>X</u> |
| SAFETY CLASS | 1 | ___ | 2 | ___ |
| | 3 | <u>X</u> | 4 | ___ |

ORIGINATOR:

CHECKER:

R. L. Layne 3/29/93
R. L. Layne, Control Sys. Eng. Date

B. R. Carlisle 3/29/93
B. R. Carlisle, Control Sys. Eng. Date

APPROVED BY:

J. B. Bunning
J. B. Bunning Lead Discipline Engineer

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Date

SECTION 17857
LOCAL CONTROL PANELS FOR POUR AND DRAIN TURNTABLES
B-595-P-P06B-17857

TABLE OF CONTENTS

| <u>PART</u> | | <u>PAGE</u> |
|---------------|--|-------------|
| PART 1 | GENERAL | 1 |
| 1.1 | SUMMARY | 1 |
| 1.2 | REFERENCES | 1 |
| 1.3 | RELATED REQUIREMENTS | 3 |
| 1.4 | DEFINITIONS | 3 |
| 1.5 | SYSTEM DESCRIPTION | 3 |
| 1.6 | SUBMITTALS | 3 |
| 1.7 | CLASSIFICATION OF SYSTEMS AND COMPONENTS | 4 |
| 1.8 | PROJECT OR SITE ENVIRONMENTAL CONDITIONS | 5 |
| 1.9 | UTILITIES | 5 |
| PART 2 | PRODUCTS | 5 |
| 2.1 | MATERIALS AND EQUIPMENT | 5 |
| 2.2 | FABRICATION AND MANUFACTURE | 7 |
| 2.3 | FACTORY ACCEPTANCE TESTS (FAT) | 11 |
| 2.4 | PACKAGING AND SHIPPING | 12 |
| PART 3 | EXECUTION | 13 |

ATTACHMENTS

| <u>ATTACHMENT</u> | <u>TITLE</u> |
|-------------------|--|
| A | EXCERPT FROM PROCESS CONTROL DESCRIPTION SYSTEM 13 |
| B | POUR TURNTABLE LOCAL PANEL (LP-130-001) I/O LIST |
| C | DRAIN TURNTABLE LOCAL PANEL (LP-130-002) I/O LIST |

SECTION 17857
LOCAL CONTROL PANELS FOR POUR AND DRAIN TURNTABLES

PART 1 GENERAL

1.1 SUMMARY

This section defines the requirements for local panel LP-130-001 with corresponding pendant LP-130-006 and local panel LP-130-002 with corresponding pendant LP-130-007. The panels with corresponding pendant will monitor and control operation of the Pour Turntable (TU-130-001) specified in Specification Section 14601 or the Drain Turntable (TU-130-002) specified in Specification Section 14602.

1.2 REFERENCES

- 1.2.1 The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designations only.

ELECTRIC POWER RESEARCH INSTITUTE (EPRI)

NP-3659 1984 Human Factors Guide for Nuclear Power Plant Control Rooms, Final Report

FACTORY MUTUAL (FM)

Directory 1991 Approval Guide

INTERNATIONAL ELECTRO-TECHNICAL COMMISSION (IEC)

IEC 964 1989 Design for Control Rooms of Nuclear Power Plants

INSTRUMENT SOCIETY OF AMERICA (ISA)

ISA RP60.6 1984 Nameplates, Labels and Tags for Control Centers

ISA S20 1981 Specification Forms for Process Measurement and Control Instruments, Primary Elements and Control Valves

MILITARY STANDARD (MIL-STD)

MIL-STD-1472D 1989 Human Engineering Design Criteria for Military Systems, Equipment, and Facilities, Change Notice 1; March 20, 1991

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

| | |
|---------------|--|
| NEMA ICS3 | 1983 Industrial Systems, Revision 3 October 1987; Part ICS 3-304, Programmable Controllers |
| ANSI/NEMA 250 | 1985 Enclosures for Electrical Equipment (1000 Volts Maximum) Revision No. 1 - May 1986, Revision No. 2 - May 1988 |

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

| | |
|---------|-------------------------------------|
| NFPA 70 | 1990 National Electrical Code (NEC) |
|---------|-------------------------------------|

U.S. NUCLEAR REGULATORY COMMISSION (NUREG)

| | |
|--------------|--|
| NUREG CR2496 | 1982 Human Engineering Design Considerations for CRT Generated Displays |
| NUREG 0700 | 1981 Guidelines for Control Room Design Reviews |

UNDERWRITERS LABORATORIES (UL)

| | |
|-----------|---|
| Directory | 1990 Electrical Appliance and Utilization Equipment Directory |
| Directory | 1991 Recognized Component Directory |
| UL 83 | 1983 Thermoplastic-Insulated Wires and Cables Ninth Edition; February 22, 1989 |
| UL 1059 | 1988 Terminal Blocks Second Edition; August 2, 1989 |

1.2.2 Reference Drawings

| | |
|---|---|
| Drawing No. H-2-123150 Sheet 1, 2 of 22 | P&ID System 13 Pour Turntable |
| Drawing No. H-2-123150 Sheet 3 of 22 | P&ID System 13 Drain Turntable |
| Drawing No. H-2-123150 and Sheet 5 of 22 | P&ID System 13 Melter Drain Valve Drain Bellows |
| Drawing No. H-2-123150 Sheet 6 of 22 | P&ID System 13 Melter Pressure Level and Pour Control |
| Drawing No. H-2-123001 Sheet 1 through 5 | P&ID Legend of Symbolology for Process Flow and Piping and Instrument Diagram |

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 Hanford Waste Vitrification Plant
 Richland, Washington
 DOE Contract DE-AC06-86RL10838

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 Advanced Technology Division
 Fluor Contract 8457

Rev. 0

1.3 RELATED REQUIREMENTS

| | |
|--|---|
| Specification Section 01730 | Operation and Maintenance Data |
| Specification Section 14601 | Pour Turntable |
| Specification Section 14602 | Drain Turntable |
| Specification Section 17908 | Instruments Furnished with Mechanical Equipment, Pour and Drain Turntables |
| Specification Section 17886 | Instruments Furnished with Mechanical Equipment, Load Cell Signal Conditioner Pour and Drain Turntables |
| Drawing No. H-2-121701 Sheet 1 of 1 | LP-130-001, 006 Instrument Panel Layout |
| Drawing No. H-2-121702 Sheet 1 of 1 | LP-130-002, 007 Instrument Panel Layout |
| Drawing No. H-2-121796 Sheets 1 through 7 | Instrument Control Logic Diagram LP-130-001, 002, 006 and 007 |

1.4 DEFINITIONS

(Not Used)

1.5 SYSTEM DESCRIPTION

The Piping and Instrument Diagram (P&ID) H-2-123150; Specification Sections 17886 and 17908, Attachment A, excerpt from Process Control Description (PCD); and Logic Diagram H-2-121796 describe a generic system and its control requirements. The Seller shall design the control configurations, sequence logic, and interlock logic to implement the specific control system required for the safe, efficient operation of the mechanical equipment being furnished, including the interface with instruments and computer systems not included in this Order/Subcontract.

1.6 SUBMITTALS

Submit the following in accordance with the Vendor Drawing and Data Requirements section of the Order/Subcontract.

- 1.6.1 Catalog cuts describing each instrument and accessory.
- 1.6.2 Manufacturers' installation drawings and instructions.

- 1.6.3 Manufacturers' operation and maintenance manuals in accordance with Specification Section 01730.
- 1.6.4 P&IDs showing the Seller's system and its interface to the rest of the plant. The Buyer will furnish instrument tag numbers on the approval prints for Seller's instruments not shown on P&ID H-2-123150.
- 1.6.5 Process Control Description (PCD), similar to Attachment A, specific to Seller's system.
- 1.6.6 Instrument data sheets similar to ISA S20, completed in accordance with ISA S20 instructions.
- 1.6.7 General arrangement drawings, front and rear views.
- 1.6.8 Rear view showing internal layout of instruments and accessories.
- 1.6.9 Electrical elementary diagrams showing devices, power wiring, signal wiring, power requirements and logic to be implemented in the Programmable Logic Controller (PLC).
- 1.6.10 Listing of the PLC program and control station configuration in Paragraph 2.2.8.6.
- 1.6.11 Panel wiring diagram, shown as a not-to-scale expanded rear view with devices and terminal blocks shown in their correct relative positions, conduit or duct layout, wire routing, and terminations.
- 1.6.12 Graphic display screen layouts.
- 1.6.13 Narrative/help screen layouts.
- 1.6.14 Instrument list showing tag number, service, manufacturer, model number, range, and setpoint if applicable.
- 1.6.15 Factory Acceptance Test (FAT) procedure including requirements in Paragraph 2.3.
- 1.6.16 A report confirming the FAT procedure was executed and indicating the results of the FAT procedure.
- 1.7 **CLASSIFICATION OF SYSTEMS AND COMPONENTS**
(Not Used)

1.8 PROJECT OR SITE ENVIRONMENTAL CONDITIONS

1.8.1 Climatic and Geographic Site Conditions

- | | |
|--------------------------------|--------------------------|
| A. Site Elevation | 714 feet above sea level |
| B. Barometric Pressure | 14.3 psia |
| C. Outside Design Temperature | |
| 1) Maximum Design Temperature | 110°F |
| 2) Minimum Design Temperature | -20°F |
| 3) Wet Bulb Design Temperature | 68°F |

1.8.2 Operating Environment

- | | |
|----------------------------------|----------------|
| A. Normal Operating Temperature | 68°F to 78°F |
| B. Maximum Operating Temperature | 104°F |
| C. Minimum Operating Temperature | 60°F |
| D. Relative Humidity | Not Controlled |

1.9 UTILITIES

(Not Used)

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

2.1.1 General

2.1.1.1 The control panels, accessories, materials, and instrumentation shall operate under the conditions of Paragraph 1.8.

2.1.1.2 Provide accessories, materials, and methods of fabrication not included in this specification, but which are necessary to complete the fabrication of the control panel.

2.1.1.3 When two or more components with the same specifications are required the components shall be identical (same manufacturer and catalog number).

- 2.1.1.4 Electrical components or devices which operate at voltages higher than 30 volts or energy greater than 100 VA shall be UL Listed Devices, UL Recognized Components, or FM Approved Devices (refer to UL and FM directories).
- 2.1.2 Panel and Accessories
 - 2.1.2.1 The basic panels shall be standard, Type 304 stainless steel, factory made, ANSI/NEMA 250, Type 4X enclosures, Hoffman A723624 (or equal).
- 2.1.3 Instruments
 - 2.1.3.1 Provide a stainless steel tag, 18 ga. minimum, with the instrument tag number and Seller's service description stamped or engraved, affixed to each instrument with stainless steel wire (preferred), stainless steel screws, or rivets. If the instrument size or configuration prevents use of a separate tag, propose an alternate method of tagging such as engraving or stamping for Buyer's approval.
 - 2.1.3.2 Instrument electrical enclosures shall be ANSI/NEMA 250, Type 4X.
 - 2.1.3.3 Provide a Programmable Logic Controller (PLC) from the following list to perform control, sequence, alarm, and shutdown functions based on the control logic, and inputs from the field instruments and the Buyer's Distributed Control System (DCS).

Select a model current at the time of the order/subcontract from the following list:

 - Modicon
 - Allen-Bradley
 - General Electric
 - 2.1.3.4 The PLCs shall incorporate the following criteria:
 - A. Input/output (I/O) hardware for pour and drain turntable (at each of the two panels) in accordance with Attachment B and C. Use the same I/O hardware for both pour and drain programs. Optically isolated solid-state I/O, unless relay interface is required.
 - B. Power input of 120 Vac, 60 Hz.
 - C. Operation voltage and dip recovery in accordance with NEMA ICS 3-304.40 and 3-304.41.
 - D. Application memory utilization that does not exceed 50 percent.

U.S. DEPARTMENT OF ENERGY
 Hanford Waste Vitrification Plant
 Richland, Washington
 DOE Contract DE-AC06-86RL10838

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 Advanced Technology Division
 Fluor Contract 8457

Rev. 0

- E. Maximum Central Processing Unit (CPU) utilization that does not exceed 50 percent at a maximum scan time cycle of 50 milliseconds.
 - F. Digital and analog outputs sized such that the maximum applied load does not exceed 75 percent of the rated capacity.
 - G. Field experience records or calculations to verify the overall Mean Time Between Failure (MTBF) of the PLC equals or exceeds 20,000 hours.
 - H. A keylock switch with removable key or password protection to prevent unauthorized access to software configuration of the logic control processor or the video display terminal.
 - I. Password protection to prevent unauthorized access to plant operator keyboard.
 - J. Prevent software configuration changes from being implemented from the operator keyboard.
 - K. Provide keylocks on I/O cabinets and electronic cabinet access doors.
- 2.1.3.5 Provide ANSI/NEMA 250, Type 4X control stations with Cathode Ray Tubes (CRTs) and membrane covered keypads from the same manufacturer.
 - 2.1.3.6 Provide manual switches and indicating lights as shown on drawings H-2-121701 and H-2-121702.
 - 2.1.3.7 Provide pendant enclosures as shown on drawings H-2-121701 and H-2-121702.
 - 2.1.3.8 Provide receptacles, plugs and caps as shown on drawings H-2-121701 and H-2-121702.
 - 2.2 **FABRICATION AND MANUFACTURE**
 - 2.2.1 **Panel Modifications**
 - 2.2.1.1 Modify the panels described in Paragraph 2.1.2.1 as necessary to support the instrumentation and accessories to be mounted in the panels. The panels shall retain their NEMA 4X rating after the modifications have been made.
 - 2.2.2 **Panel Interior Environment**
 - 2.2.2.1 Prevent operating temperature from exceeding instrument/equipment manufacturers' operating limits.

- 2.2.2.2 Prevent condensation during shipping, storage, and operation.
- 2.2.3 Painting
 - Panels are 304 SS and do not require painting.
- 2.2.4 Instrument Mounting
 - 2.2.4.1 Mount and support instruments in accordance with manufacturers' installation documents and Contract Drawings.
 - 2.2.4.2 Mount instruments and components to allow for adjustments or replacement without disturbing wiring or other equipment.
 - 2.2.4.3 Layout front of panel instruments in accordance with MIL-STD-1472D and NUREG 0700. Drawings H-2-121701 and H-2-121702 comply with these specifications.
- 2.2.5 Nameplates
 - 2.2.5.1 Make nameplates from 1/16 inch thick laminated plastic stock with white surface and black core, except as noted on drawings H-2-121701 and H-2-121702. Bevel the edges and remove burrs.
 - 2.2.5.2 Engrave with Helvetica Bold Condensed capital letters. If abbreviations cannot be avoided, select them from ISA RP60.6. Other abbreviations are subject to Buyer's approval.
 - 2.2.5.3 Fasten the nameplates to the panel with stainless steel Number 4-40 screws or 1/8 inch drive rivets.
 - 2.2.5.4 Provide 1 inch maximum height nameplates with instrument tag numbers engraved in 1/8 inch high letters on the back of the panel to show the location of front and back of panel mounted instruments.
 - 2.2.5.5 Make front of panel nameplates as shown on drawings H-2-121701 and H-2-121702.
- 2.2.6 Panel Piping
 - There is no piping required on these panels.
- 2.2.7 Panel Wiring
 - 2.2.7.1 Wiring material and installation methods shall comply with NFPA-70, Article 725, Class 1 and Class 2.
 - 2.2.7.2 Use No. 16 American Wire Gauge (AWG) stranded copper wire with Machine Tool Wire (MTW) insulation conforming to UL 83.

- 2.2.7.3 Terminate conductors on screw terminals with tin plated copper, compression ring-tongue, nylon insulated terminals in accordance with UL 486A. Use Thomas and Betts Catalog No. RB-14 (#18-14 AWG) and RC-10 (#12-10 AWG) or equal.
- 2.2.7.4 Identify wires at both ends with white tubular shrink-on sleeves with permanently imprinted black characters. Use the same number throughout the run of daisy chained wires.
- 2.2.7.5 Use the instrument tag number and a sequential number for the wire number. Use the same sequential number for the same terminal on similar instruments.
- 2.2.7.6 Support wiring in metal or plastic raceway or conduit.
- 2.2.7.7 Provide channel mounted terminal blocks with number 8 screws, rated 600 volts and in compliance with UL 1059. Select Allen Bradley Catalog Number 1492-CD3, or equal. Provide an even number of spare terminals greater than 25 percent of terminals used.
- 2.2.7.8 Provide a copper safety ground bus bolted to the panel frame, with screws to connect 8 or more 10-14 AWG ground wires. Provide a similar, but isolated, instrument signal ground bus.
- 2.2.7.9 Wire Input/Output directly to receptacles. Use terminal blocks for power supply.
- 2.2.7.10 Provide separate receptacles for high and low voltage signals.
- 2.2.7.11 Divide the main incoming 120 Vac power by system or function. Install a fused disconnect switch on the line (hot) side of each circuit. Color code the wires as:
- | | |
|---------|---------|
| Hot | - Black |
| Neutral | - White |
| Ground | - Green |
- 2.2.7.12 Control voltage for each motor operated from the panel will be supplied from the Buyer's Motor Controller (MC) for that motor. The Buyer will provide unpowered UC auxiliary contacts to switch signal voltage from the Seller's panel to indicate motor status. See also Attachment A, Panel I/O list.
- 2.2.7.13 If power from external systems (such as the control voltage from motor starters) comes into the panel provide a red nameplate with white letters that reads:

CAUTION:
120 VAC CIRCUITS FROM EXTERNAL
SOURCES MAY BE ENERGIZED WHEN
THE PANEL MAIN BREAKER IS OPEN.

Nameplate shall be mounted adjacent to the terminal blocks where these external circuits are landed.

- 2.2.7.14 Install incandescent light fixtures on a separate 120 Vac circuit with an on/off switch to illuminate the entire panel interior.
- 2.2.7.15 Install a duplex receptacle on a separate 120 Vac circuit to power test equipment.
- 2.2.7.16 Provide two spare fuses to each type used in the panel. Seal them in a clear plastic bag marked "Spare Fuses" and tie-wrap them to the panel interior.
- 2.2.8 Programming and Configuration
 - 2.2.8.1 Provide the PLC manufacturer's software for programming the PLC logic and for configuring the control station using a general purpose personal computer, either the International Business Machine (IBM) model current at the time of the Order/Subcontract or a fully compatible computer by another manufacturer.

The personal computer is not in the Seller's scope of supply.
 - 2.2.8.2 Provide programs for both the Pour Turntable, shown as on LP-130-001 and 006, and the Drain Turntable, shown as on LP-130-002 and 007, in both panels 001 and 002. LP-130-001 is intended for use with the Pour Turntable but may be used to operate the Drain Turntable, and vice-versa. Use the same I/O hardware for both programs, selected by the receptacle that is in use.
 - 2.2.8.3 Design the control circuits to fail in a safe condition on loss of power.
 - 2.2.8.4 Design discrete circuits to operate on 120 Vac, to have contacts closed (powered) during normal operation, and to have contacts open on abnormal conditions to cause alarms and shutdowns.
 - 2.2.8.5 Design graphic displays, help screens, and instruction screens according to the principles described in EPRI NP-3659, IEC 964, MIL-STD 1472D, NUREG 0700, and NUREG CR 2496.
 - 2.2.8.5.1 The graphic shall display symbols representative of the mechanical equipment. Operable devices on the equipment shall change color to indicate their status. The color change shall be augmented by alpha numeric alarm messages, color coded for alarm and advisory conditions.

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DOE Contract DE-AC06-86RL10838

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- 2.2.8.5.2 Intermixed with the mechanical equipment based graphics shall be additional narrative display "help" screens to prompt the operator through the control sequence.
- 2.2.8.5.3 Typical instructions in this narrative display shall include manual functions by the operator, permissive interlocks that should appear, and annunciation of interlocks that fail.
- 2.2.8.6 Provide both a printed listing and a 3-1/2 inch diskette of the PLC control logic program and the operator station configuration program.
- 2.2.8.7 Design and implement software to allow the use of either panel for either the Pour or Drain turntable.
- 2.2.9 Interface to Other Instrument and Computer Systems
 - 2.2.9.1 Supply a two-way communication interface for the PLC that is equivalent to Allen-Bradley's (AB) Data Highway Plus, Manufacturing Automation Protocol (MAP), or the Modicon Modbus protocol. The PLC shall respond to valid instructions from the Buyer's DCS. Examples of valid instructions are:
 - Request for data
 - Programmed process control instructions
 - Program and configuration modifications
 - 2.2.9.2 Provide hardware and software to enable transfer of logic programs, control station configurations, and data to and from the Buyer's IBM or compatible computer by serial or parallel cable and 3-1/2 inch floppy disk.
- 2.3 FACTORY ACCEPTANCE TESTS (FAT)
 - 2.3.1 Prepare a FAT procedure and submit it to the Buyer for approval. Include:
 - A. Inspection/tests to demonstrate that the fabrication and assembly of the materials and equipment meet the requirements of the Contract Drawings and specifications.
 - B. Physical inspection to confirm that instruments are new and not damaged.
 - C. Full functional test of instrument systems to determine operability.
 - D. For the PLC and the control station program/configuration:

Required tests and test sequence
Required ranges of input parameters
Identification of the stages at which testing is required
Criteria for establishing test cases
Requirements for testing logic branches
Requirements for hardware integration
Anticipated output values
Acceptance criteria
Reports, records, standard formatting, and conventions

2.3.2 Inspect and test the instrument installations according to the Buyer approved FAT Procedure.

2.3.3 Submit a report confirming that the FAT procedure has been completed and the results, include:

- A. PLC program tested
- B. PLC hardware used
- C. Item tested
- D. Date of test
- E. Test equipment and calibrations
- F. Tester or data recorder
- G. Type of observation
- H. Results and acceptability
- I. Action taken in connection with any deviations noted
- J. Person evaluating test results

2.4 PACKAGING AND SHIPPING

2.4.1 Reinstall shipping stops which were removed for calibration and testing.

2.4.2 Install temporary additional shipping supports for instruments and equipment to be shipped mounted in the panel. All such supports shall be noted for field removal.

2.4.3 Repack loose instruments and equipment, including those removed from the panel for shipment, in the manufacturer's original packing material. Accumulate these in a separate crate marked "INSTRUMENTS" with identification to relate it to the mechanical equipment it serves.

- 2.4.4 Protect all shipped materials from moisture, vibration, shock, and heat damage while in transit or interim storage.

PART 3 EXECUTION

(Not Used)

END OF SECTION

ATTACHMENT A
EXCERPT FROM PROCESS CONTROL DESCRIPTION SYSTEM 13
MELTER/TURNTABLE SYSTEM

1.0 GENERAL DESCRIPTION

The Turntable System is located in the Vitrification Building. It consists of a pour turntable and a drain turntable. It provides the following functions:

- 1) Filling of canisters with vitrified waste via the overflow of the Melter
- 2) Filling of canisters with vitrified waste via the bottom drain, at the end of the Melter's lifetime.

Normally, glass from the melter is poured into canisters on the pour turntable, which has a capacity of four canisters and is located under the melter pour spout. The pour turntable has four positions. Each position of the turntable can hold one canister. Forward rotation of the turntable moves a canister from the loading/unloading position to the standby position, then to the filling position, and finally to the cooling position.

As soon as one of the two glass level measuring systems indicates a filled canister, the glass flow is stopped by reducing the vacuum in the pour spout. The canister is vented for 30 minutes and then moved to the cooling position by rotating the turntable. This rotation moves an empty canister into the filling position and the filling cycle is repeated.

At the end of the melter lifetime, the bottom drain is used to empty as much glass as possible out of the melter. The molten glass is discharged from the melter by gravity flow through the bottom drain into a canister placed on the drain turntable. The drain turntable holds five canisters. The glass flow into the canister is controlled through a bottom drain valve. A backup drain plug valve is provided to stop the glass flow in case the bottom drain probe valve fails to stop the glass flow. The rest of the operation is similar to the canister filling via overflow.

Each portable control panel assembly is provided to operate the pour (designated LP-130-001) and drain (designated LP-130-002) turntable. Each control panel contains all the controls and indicators to operate the turntable drive motors, canister weighing system, canister positioning arm, melter drain valve system, pour spout bellows, monitor gamma level detection systems, and to interface with the distributed control system (DCS). Either control panel may be used to operate either turntable, should the need arise.

A pendant control station (LP-130-006, LP-130-007) is included with the pour and drain turntable control panels to enable the operator to precisely align a canister in its filling position with the positioning limit switches bypassed. Twenty feet of cable are provided, so that the turntable can be jogged in either direction and stopped while the operator visually observes the alignment through a window in the regulated corridor. The ROTATION CONTROL (software) switch on the control panel must be in the JOG position to enable the pendant controls.

2.0 OPERATING DESCRIPTION NARRATIVE

The Turntable system is operated from Local Control Panels (LP-130-001, 002) located outside the melter cell and from the Central Control Room (CCR) through the Distributed Control System (DCS). The local panels require supervisory permission from the DCS to operate. Many functions controlled from local panels or from the CCR require additional supervisory permission. For example, the bottom drain cart can not be moved without a permissive from a supervisor keyswitch at the local panel. The operations requiring visual confirmation (e.g., canister movement) are carried out from the local panels. Alarms are displayed at local panels or the CCR or both as appropriate.

Most of the in-cell instrumentation is backed up by redundant instruments. For example, all bellows position switches are dual switches.

2.1 ROUTINE OPERATIONS

2.1.1 Canister Filling Via Overflow

The Pour Turntable (TU-130-001), the Canister Positioning Arm (HD-130-001), and the pour spout bellows of the Melter (ME-130-001) are operated from Local Control Panel LP-130-001. The Melter Operations Control Program (YCP-MEL-016) oversees all activities related to canister filling via the overflow, and provides a status signal to the LP-130-001 control program.

A canister is filled via the overflow as described below. As a starting point of the sequence, it is assumed that the canister under the pour spout has just been filled and vented. Further details about the operation of the individual components, associated interlocks, and programs are provided below the description of the sequence.

Canister Filling Sequence

- 1) The CCR operator gives permission to change the canister using logic controller YIC-IAX-093B. This enables the local control panel LP-130-001 for changing the canister under the pour spout. The status of the permissive (YIC-IAX-093A) is indicated at the local panel.
- 2) The local operator retracts the pour spout bellows by placing the Pour Spout Bellows Handswitch (YIC-IAX-092) in the UP position. The bellows position is confirmed at ZIHL-IAX-099A.
- 3) The local operator opens the Canister Positioning Arm (HD-130-001) by placing Canister Positioning Arm Handswitch (YIC-PTT-046) in the OPEN position. The arm position is confirmed at ZIH-PTT-045A.
- 4) The local operator rotates the turntable (TU-130-001) 90° by operating Handswitch YIC-PTT-029. The Pour Turntable Rotation Control Program (YCP-PTT-028) moves the next empty canister under the pour spout and moves the filled canister to the cooling position on the turntable.

- 5) The local operator unloads a filled and cooled canister from the turntable and loads an empty canister into the turntable using a remotely operated crane.

Remark: The steps 4 and 5 are swapped if the position for loading and unloading is used for extended canister cooling.

- 6) The local operator closes the Canister Positioning Arm (HD-130-001) by placing the Canister Positioning Arm Handswitch (YIC-PTT-046) in the CLOSE position. The arm position is confirmed at ZIL-PTT-045A.
- 7) The local operator extends the pour spout bellows by placing the Pour Spout Bellows Handswitch (YIC-IAX-092) in the DOWN position. The bellows position is confirmed at ZIL-IAX-099A.
- 8) The local operator operates YIC-IAX-093A to return the control of the overflow operation from the local control panel to the CCR.
- 9) The CCR operator starts the Melter Overflow Control Program (YCP-PAC-623). It manipulates the differential pressure between melter airspace and canister airspace (PDIC-MEL-623) to start and stop the glass flow. The canister glass level (LI-PTT-001B through -015B) and weight (WI-PTT-024B) are monitored.
- 10) When the canister is full, program YCP-PTT-029 stops the glass flow and vents the canister for 30 minutes. This completes one cycle of the canister filling via overflow.

2.1.1.1 Transfer of Control between Local Control Panel and CCR

Control Transfer Logic Controller (YIC-IAX-093B) allows the CCR operator to transfer control to the local control panel if program YCP-PTT-029 indicates that the canister status is READY or FINISHED. The status of the CCR permissive is indicated at the local control panel (YIC-IAX-093A). Logic controller YIC-IAX-093A allows the local operator to transfer control to the CCR if the cart is stationary at the filling position (YIC-PTT-030 and YIC-PTT-031), the position arm is closed (YIC-PTT-046), and the bellows is extended (YIC-IAX-092).

2.1.1.2 Pour Spout Bellows Operation

The pour spout bellows is extended by applying air pressure and retracted by venting the air through 3-way valve YV-IAX-092. In the UP (retracted) position (ZIH-IAX-092), valve ports A and C are connected. In the DOWN (extended) position (ZIL-IAX-092), valve ports B and C are connected. Pour Spout Bellows Logic Controller (YIC-IAX-092) places valve YV-IAX-092 in the DOWN position only if

- The CCR operator permissive (YIC-IAX-093B) is granted.
- The pour turntable is in the filling position (YIC-PTT-030).

- The pour turntable cart is in the filling position (YIC-PTT-031).
- The canister positioning arm is closed (YIC-PTT-046).
- The pour spout bellows is down (YIC-IAX-092).

In case of low-low air supply pressure (PALL-IAX-084A), the logic controller YIC-IAX-092 places the valve YV-IAX-092 in the UP position and does not allow the local operator to place the valve YV-IAX-092 in DOWN position. When the valve YV-IAX-092 is in UP position, the canister filling is interrupted.

The position of the bellows is indicated by separate switches. ZSH-IAX-099A, B for retracted bellows, ZSL-IAX-099A, B for extended bellows. Logic controller YC-IAX-099 detects position switch failures and generates alarm ZA-IAX-099A at the local control panel and ZA-IAX-099B in the CCR.

2.1.1.3 Canister Positioning Arm

Canister Positioning Arm Logic Controller (YIC-PTT-046) allows the local operator to open or close the Canister Positioning Arm (HD-130-001) only if

- The CCR operator permissive is granted (YIC-IAX-093B).
- The Pour turntable is in the filling position (YIC-PTT-030).
- The Pour turntable cart is in the filling position (YIC-PTT-031).
- The Pour spout bellows is retracted (YC-IAX-099).

The position of the Canister Positioning Arm (HD-130-001) is indicated by separate switches. ZSH-PTT-045A, B for opened, ZSL-PTT-045A, B for closed positioning arms. Logic Controller YIC-PTT-045A detects position switch failures and generates alarm ZA-PTT-045A at the local panel and ZA-PTT-045B in the CCR.

2.1.1.4 Pour Turntable Operation

Cart Drive

The cart drive is only used to move the pour turntable under the melter and to remove it for maintenance and repair work or at the end of the melter lifetime to make room for the drain turntable. A supervisor key switch (HS-PTT-031) must be enabled before the cart may be moved. The local operator can select the direction (FORWARD or REVERSE), the speed (FAST or SLOW) and start or stop cart movement using softswitch YIC-PTT-031.

Pour Turntable Cart Logic Controller (YIC-PTT-031) allows cart movement only if

- The CCR operator permissive is granted (YIC-IAX-093B).

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

- The pour turntable is not rotating (YIC-PTT-030).
- The pour spout bellows is retracted (YC-IAX-099).
- The canister positioning arm is open (YIC-PTT-046).

Further, logic controller YIC-PTT-031 does not allow FAST speed selection in FORWARD direction if the cart is near the filling position (ZS-PTT-022). Logic controller YIC-PTT-031 stops the cart when it reaches the filling position (ZS-PTT-023).

Turntable Drive

The turntable drive can be rotated to move the canisters into four positions: (1) loading/unloading, (2) standby, (3) filling, and (4) cooling position. The local operator can select the AUTO or MANUAL mode of operation using Handswitch YIC-PTT-029.

In either the AUTO or MANUAL mode, Pour Turntable Logic Controller (YIC-PTT-030) allows the turntable drive to start only if

- The CCR operator permissive is granted (YIC-IAX-093B).
- The pour turntable cart is not moving (YIC-PTT-031).
- The pour spout bellows is retracted (YC-IAX-099).
- The canister positioning arm is open (YIC-PTT-046).

MANUAL mode: In the MANUAL mode, the local operator can select the turntable rotation direction as counterclockwise (FORWARD) or clockwise (REVERSE) using softswitch YIC-PTT-030. Normally, the turntable is rotated in the FORWARD direction. The speed of rotation (SLOW or FAST) is selected at softswitch YIC-PTT-030. The turntable rotation is started and stopped using softswitch YIC-PTT-030. The turntable position is indicated by the Canister in Filling Position Indicator (ZI-PTT-020A), the Canister Near Filling Position (FORWARD) Indicator (ZI-PTT-019), and the Canister Near Filling Position (REVERSE) Indicator (ZI-PTT-021).

AUTO mode: In the automatic mode, the local operator starts the Pour Turntable Rotation Control Program (YCP-PTT-028) to rotate the turntable 90° in the FORWARD direction using Handswitch YIC-PTT-029. Program YCP-PTT-028 executes following sequence:

- 1) Select the FORWARD direction and FAST speed (YIC-PTT-030).
- 2) Start turntable drive (YIC-PTT-030).
- 3) When the turntable reaches near filling position (ZS-PTT-019), select SLOW speed (YIC-PTT-030).

- 4) When the turntable reaches the filling position (ZS-PTT-020A), stop the turntable drive (YIC-PTT-030).

2.1.1.5 Glass Weight and Flow

During canister filling, the glass level in the canister is sensed with a set of gamma detectors (LE-PTT-001 through LE-PTT-015). When the glass level is detected at each of these detectors, the glass weight of the canister is calculated (LY-PTT-025) and indicated (WI-PTT-025). The result is compared with the glass weight indicated by the load cell (WI-PTT-024B); if the difference is greater than a preset value, an alarm (WDAH-PTT-026) is generated.

The rate of increase of the canister weight (WI-PTT-024B) is calculated by WY-PTT-024 and indicated as Glass Flow Rate (FI-PTT-024).

2.2 INFREQUENT NORMAL OPERATION

2.2.1 Canister Filling Via Bottom Drain

The Drain Turntable (TU-130-002), drain bellows, and drain valves are operated from Melter Drain Local Control Panel (LP-130-002). Heating is controlled through the DCS from the CCR.

Prior to the melter start-up, the Drain Turntable (TU-130-002) is loaded with five empty canisters and is moved to the filling position under the melter drain bellows. The blank connector in the bottom drain vent line is replaced by the vent line jumper to provide venting during canister filling.

The sequence for the bottom drain operation is as follows:

- 1) Position the canister in the drain filling position.
- 2) Check the drain valves and the drain bellows.
- 3) Adjust the melter operating conditions to draining.
- 4) Start the Bottom Drain Heaters Control Program (YCP-MEL-027).
- 5) Fill the canister.
- 6) Change the canister.
- 7) Steps 5 and 6 are repeated until the melter is empty.

2.2.1.1 Transfer of Control between the Local Control Panel and the CCR

The Drain Control Transfer Logic Controller (YIC-IX-028B) allows the CCR supervisor to transfer control to the local control panel (LP-130-002) if the air supply pressures are above low setpoint (PAL-IX-032 and 060) and

the air supply valves (YV-IAX-033 and 062) are open. The status of the CCR permissive is indicated at the local control panel (YIC-IAX-028A). If the local supervisor sets the DRAIN VALVE OPERATION keyswitch HS-IAX-028 to ENABLE, the drain cart is stationary at the filling position (YIC-DTT-003 and 004), and the drain bellows is extended (YIC-IAX-089A), logic controller YIC-IAX-028A permits operation of the individual drain valve logic controllers (YIC-IAX-034 and 063).

2.2.1.2 Drain Valves and Drain Bellows

The melter drain is equipped with two valve mechanisms to control the glass flow through the drain. Both mechanisms are operated through air bellows. The first mechanism in the flow path is a probe valve and the second one is a plug valve. The plug valve is used as a backup device to stop the glass flow in case the probe valve is unable to stop the glass flow. A drain bellows is provided to establish a seal between the drain and the canister.

Drain Bellows

The drain bellows is extended by applying air pressure and retracted by venting the air through the 3-way valve YV-IAX-086. In the UP (retracted) position (ZIH-IAX-086), valve ports A and C are connected. In the DOWN (extended) position (ZIL-IAX-086), valve ports B and C are connected. Drain Bellows Logic Controller (YIC-IAX-086) places valve YV-IAX-086 in DOWN position only if

- The CCR supervisor permissive (YIC-IAX-028B) is granted.
- The drain turntable is in filling position (YIC-DTT-003).
- The drain turntable cart is in filling position (YIC-DTT-004).

In case of low-low air supply pressure (PALL-IAX-084A), the logic controller YIC-IAX-086 places the valve YV-IAX-086 in UP position and does not allow the local operator to place the valve YV-IAX-086 in DOWN position.

The position of the drain bellows is indicated by separate switches. ZSH-IAX-089A, B for retracted bellows, ZSL-IAX-089A, B for extended bellows. Logic controller YIC-IAX-089A detects position switch failures and generates alarm ZA-IAX-089A at the local control panel and ZA-IAX-089B in the CCR.

Drain Probe Valve Bellows

The drain probe valve is opened by retracting the drain probe valve bellows. The drain probe valve bellows is extended and retracted by applying air pressure on one side of the bellows and venting the air from the other side of the bellows through the 4-way solenoid valve YV-IAX-063. In the CLOSE position (ZIL-IAX-063), solenoid valve ports A and D and valve ports B and C are connected. In the OPEN position (ZIH-IAX-063), solenoid valve ports A and B and valve ports C and D are connected. The Drain Probe Valve

Bellows Logic Controller (YIC-IAX-063) places valve YV-IAX-063 in the OPEN position only if:

- The CCR supervisor permissive is granted (YIC-IAX-028B).
- The local supervisor keyswitch is in ENABLE position (HS-IAX-028).
- The drain turntable is in the filling position (YIC-DTT-003).
- The drain turntable cart is in the filling position (YIC-DTT-004).
- The drain bellows is extended YIC-IAX-089A.

In case of low-low air pressure (PALL-IAX-084A), air supply valve YV-IAX-062 is closed by logic controller YIC-IAX-062.

The position of the drain probe valve bellows is indicated by separate switches. ZSH-IAX-066A, B for retracted bellows (glass flow possible), ZSL-IAX-066A, B for extended bellows (no glass flow). Logic controller YIC-IAX-066 detects position switch failures and generates alarm ZA-IAX-066A at the local control panel, and ZA-IAX-066B in the CCR.

2.2.1.3 Drain Backup Plug Valve

The drain backup plug valve is operated in the same way as the drain probe valve. Prior to operating the drain probe valve for the first time during the draining operation the local operator exercises the drain backup plug valve to ensure that it is functioning and then leaves it in open position.

2.2.1.4 Drain Turntable Operation

The Drain Turntable (TU-130-002) is operated from the local control panel (LP-130-002). The drain turntable can be observed through a shielding window. The drain turntable positions are indicated at the local panel and the CCR.

Drain Turntable Cart Drive

The cart drive is used to move the drain turntable under the melter and to remove it after one or more canisters are filled. A supervisor key switch (HS-DTT-004) must be enabled before the cart may be moved. The local operator can select direction (FORWARD or REVERSE).

Drain Turntable Cart Logic Controller (YIC-DTT-004) allows cart movement only if

- The drain turntable is not rotating (YIC-DTT-003).
- The drain bellows is retracted (YIC-IAX-089A).

- The drain probe valve is closed (YIC-IAX-066A) or the backup plug valve is closed (YIC-IAX-037A).

Further, logic controller YIC-DTT-004 does not allow the FAST speed in the FORWARD direction if the cart is near the filling position (ZS-DTT-009). Logic controller YIC-DTT-004 stops the cart when it reaches the filling position (ZS-DTT-010).

Drain Turntable Drive

The drain turntable drive can be rotated to move the empty canisters into the filling position. The local operator can select the AUTO or MANUAL mode of operation using softswitch YIC-DTT-002.

In either the AUTO or MANUAL mode, Drain Turntable Logic Controller (YIC-DTT-003) allows the turntable drive to start only if:

- The local supervisor keyswitch HS-IAX-028 is switched to the DISABLE position.
- The drain turntable cart is not moving (YIC-DTT-004).
- The drain bellows is retracted (YIC-IAX-089A).
- The drain probe valve is closed (YIC-IAX-066A) or the backup plug valve is closed (YIC-IAX-037A).

MANUAL mode: In the MANUAL mode, the local operator can select the turntable rotation direction as counterclockwise (FORWARD) or clockwise (REVERSE) using softswitch YIC-DTT-003. Normally, the turntable is rotated in the FORWARD direction. The speed of rotation (SLOW or FAST) is selected at softswitch YIC-DTT-003. The turntable rotation is started and stopped using softswitch YIC-DTT-003. The turntable position is indicated by the Canister In Filling Position Indicator (ZI-DTT-007A), Canister Near Filling Position (FORWARD) Indicator (ZI-DTT-006), and Canister Near Filling Position (REVERSE) Indicator (ZI-DTT-008).

AUTO mode: In the automatic mode, the local operator starts the Drain Turntable Rotation Control Program (YCP-DTT-001) to rotate the turntable 72° in the FORWARD direction using handswitch YIC-DTT-003. Program YCP-DTT-001 executes following sequence:

- 1) Select the FORWARD direction and FAST speed (YIC-DTT-003).
- 2) Start the turntable drive (YIC-DTT-003).
- 3) When the turntable reaches the near-filling position (ZS-DTT-006), select the SLOW speed (YIC-DTT-003).
- 4) When the turntable reaches the filling position (ZS-DTT-007), stop the turntable drive (YIC-DTT-003).

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

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SECTION 17886
INSTRUMENTS FURNISHED WITH MECHANICAL EQUIPMENT
LOAD CELL SIGNAL CONDITIONER
POUR AND DRAIN TURNTABLES
B-595-P-P06B-17886

APPROVED FOR CONSTRUCTION

REVISION 0
ISSUE DATE 4-6-93

| | | | | |
|---------------|-----|-------------|----|-------------|
| WAPA | YES | <u> </u> | NO | <u>X</u> |
| QUALITY LEVEL | I | <u> </u> | II | <u>X</u> |
| SAFETY CLASS | 1 | <u> </u> | 2 | <u> </u> |
| | 3 | <u>X</u> | 4 | <u> </u> |

ORIGINATOR:

CHECKER:

Robert L. Layne 3/29/93
R. L. Layne, Control Sys. Eng. Date

B. R. Carlisle 3/29/93
B. R. Carlisle, Control Sys. Eng. Date

APPROVED BY:

J. B. Bunning
J. B. Bunning Lead Discipline Engineer

03/29/93
Date

Rev. 0

ATTACHMENT C
DRAIN TURNTABLE LOCAL PANEL (LP-130-002) I/O LIST

| REMOTE INSTRUMENT | REMOTE INSTR BY | SIGNAL | CONTACT RATING | POWER SOURCE | PANEL INSTR FUNCTION | INPUT/OUTPUT | RANGE IN ENG UNITS | NOTES |
|-------------------|-----------------|-------------|-----------------|--------------|----------------------|--------------|--------------------|-------|
| LIT-DTT-011 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | LI-DTT-011A | INPUT | 3 INCH | |
| LIT-DTT-012 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | LI-DTT-012A | INPUT | 30 INCH | |
| LIT-DTT-013 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | LI-DTT-013A | INPUT | 60 INCH | |
| LIT-DTT-014 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | LI-DTT-014A | INPUT | 71 INCH | |
| LIT-DTT-015 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | LI-DTT-015A | INPUT | 81 INCH | |
| LIT-DTT-016 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | LI-DTT-016A | INPUT | 91 INCH | |
| LIT-DTT-017 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | LI-DTT-017A | INPUT | 93 INCH | |
| LIT-DTT-018 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | LI-DTT-018A | INPUT | 114 INCH | |
| LIT-DTT-019 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | LI-DTT-019A | INPUT | 124 INCH | |
| ZS-DTT-006 | SELLER | DISCRETE | SELLER | SELLER | ZI-DTT-006 | INPUT | ----- | |
| ZS-DTT-007 | SELLER | DISCRETE | SELLER | SELLER | ZI-DTT-007A, 007C | INPUT | ----- | |
| ZS-DTT-008 | SELLER | DISCRETE | SELLER | SELLER | ZI-DTT-008 | INPUT | ----- | |
| ZS-DTT-009 | SELLER | DISCRETE | SELLER | SELLER | ZI-DTT-009 | INPUT | ----- | |
| ZS-DTT-010 | SELLER | DISCRETE | SELLER | SELLER | ZI-DTT-010A | INPUT | ----- | |
| HIS-DTT-005A | SELLER | DISCRETE | SELLER | SELLER | YIC-DTT-004 | INPUT | ----- | |
| HS-DTT-004 | SELLER | DISCRETE | SELLER | SELLER | YIC-DTT-004 | INPUT | ----- | |
| HIS-DTT-005B | SELLER | DISCRETE | SELLER | SELLER | YIC-DTT-004 | INPUT | ----- | |
| HIS-DTT-006 | SELLER | DISCRETE | SELLER | SELLER | YIC-DTT-004 | INPUT | ----- | |
| HIS-DTT-008 | SELLER | DISCRETE | SELLER | SELLER | YIC-DTT-004 | INPUT | ----- | |
| WIT-DTT-020 | SELLER | 4 - 20 MADC | ----- | SELLER | WI-DTT-020A | INPUT | 0 - 6000 LBS | |

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U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

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Rev. 0

| REMOTE INSTRUMENT | REMOTE INSTR BY | SIGNAL | CONTACT RATING | POWER SOURCE | PANEL INSTR FUNCTION | INPUT/OUTPUT | RANGE IN ENG UNITS | NOTES |
|-------------------|-----------------|----------|-----------------|--------------|----------------------|--------------|--------------------|-------|
| WI-DTT-022B | BUYER | DCS SOFT | ----- | SELLER | WI-DTT-022A | OUTPUT | 0 - 6000 LBS | |
| WDAH-DTT-021B | BUYER | DCS SOFT | ----- | SELLER | WDAH-DTT-021A | INPUT | ----- | |
| FI-DTT-020B | BUYER | DCS SOFT | ----- | SELLER | FI-DTT-020A | INPUT | ----- | |
| PAL-IAX-057B | BUYER | DCS SOFT | ----- | SELLER | PAL-IAX-057A | OUTPUT | | |
| PAL-IAX-027B | BUYER | DCS SOFT | ----- | SELLER | PAL-IAX-027A | OUTPUT | | |
| YIC-IAX-028B | BUYER | DCS SOFT | ----- | SELLER | YIC-IAX-028A | IN/OUT | | |
| YIC-IAX-062 | BUYER | DC SOFT | ----- | SELLER | YIC-IAX-063 | IN/OUT | | |
| YIC-IAX-033 | BUYER | DC SOFT | ----- | SELLER | YIC-IAX-034 | IN/OUT | | |
| ZI-IAX-066B | BUYER | DC SOFT | ----- | SELLER | YIC-IAX-066A | OUTPUT | | |
| ZI-IAX-037B | BUYER | DC SOFT | ----- | SELLER | YIC-IAX-037A | OUTPUT | | |
| ZIL-IAX-089B | BUYER | DC SOFT | ----- | SELLER | YIC-IAX-089A | OUTPUT | | |
| YV-IAX-033 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | YIC-IAX-034 | OUTPUT | | |
| YV-IAX-062 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | YIC-IAX-063 | OUTPUT | | |
| PSL-IAX-057 | BUYER | DISCRETE | 120VAC, 5AMPS | SELLER | PAL-IAX-057A | INPUT | | |
| PV-IAX-057 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | PAL-IAX-057A | OUTPUT | | |
| PSL-IAX-027 | BUYER | DISCRETE | 120VAC, 5AMPS | SELLER | PAL-IAX-027A | INPUT | | |
| PV-IAX-027 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | PAL-IAX-027A | OUTPUT | | |
| ZSH-IAX-089A | SELLER | DISCRETE | SELLER | SELLER | YIC-IAX-089A | INPUT | ----- | |
| ZSL-IAX-089A | SELLER | DISCRETE | SELLER | SELLER | YIC-IAX-089A | INPUT | ----- | |
| ZSH-IAX-089B | SELLER | DISCRETE | SELLER | SELLER | YIC-IAX-089A | INPUT | ----- | |
| ZSL-IAX-089B | SELLER | DISCRETE | SELLER | SELLER | YIC-IAX-089A | INPUT | ----- | |
| ZSH-IAX-062 | BUYER | DISCRETE | SELLER | SELLER | YIC-IAX-063 | INPUT | ----- | |

Rev. 0

| REMOTE INSTRUMENT | REMOTE INSTR BY | SIGNAL | CONTACT RATING | POWER SOURCE | PANEL INSTR FUNCTION | INPUT/OUTPUT | RANGE IN ENG UNITS | NOTES |
|-------------------|-----------------|------------|----------------|--------------|----------------------|--------------|--------------------|-------|
| ZSL-IAX-062 | BUYER | DISCRETE | SELLER | SELLER | YIC-IAX-063 | INPUT | ----- | |
| ZSH-IAX-063 | BUYER | DISCRETE | SELLER | SELLER | YIC-IAX-063 | INPUT | ----- | |
| ZSL-IAX-063 | BUYER | DISCRETE | SELLER | SELLER | YIC-IAX-063 | INPUT | ----- | |
| ZSH-IAX-066A | SELLER | DISCRETE | SELLER | SELLER | YIC-IAX-066A | INPUT | ----- | |
| ZSL-IAX-066A | SELLER | DISCRETE | SELLER | SELLER | YIC-IAX-066A | INPUT | ----- | |
| ZSH-IAX-066B | SELLER | DISCRETE | SELLER | SELLER | YIC-IAX-066A | INPUT | ----- | |
| ZSL-IAX-066B | SELLER | DISCRETE | SELLER | SELLER | YIC-IAX-066A | INPUT | ----- | |
| ZSH-IAX-033 | BUYER | DISCRETE | SELLER | SELLER | YIC-IAX-034 | INPUT | ----- | |
| ZSL-IAX-033 | BUYER | DISCRETE | SELLER | SELLER | YIC-IAX-034 | INPUT | ----- | |
| YV-IAX-063 | BUYER | DISCRETE | 120VAC, 5AMPS | SELLER | YIC-IAX-063 | OUTPUT | ----- | |
| ZSH-IAX-037A | SELLER | DISCRETE | SELLER | SELLER | YIC-IAX-037A | INPUT | ----- | |
| ZSL-IAX-037A | SELLER | DISCRETE | SELLER | SELLER | YIC-IAX-037A | INPUT | ----- | |
| ZSH-IAX-037B | SELLER | DISCRETE | SELLER | SELLER | YIC-IAX-037A | INPUT | ----- | |
| ZSL-IAX-037B | SELLER | DISCRETE | SELLER | SELLER | YIC-IAX-037A | INPUT | ----- | |
| MC TURNTABLE S/S | BUYER | DISCRETE | 120VAC, 10AMPS | BUYER | YIC-DTT-003 | OUTPUT | ----- | |
| MC TURNTABLE AUX | BUYER | DISCRETE | SELLER | SELLER | YIC-DTT-003 | INPUT | ----- | |
| MC CART S/S | BUYER | DISCRETE | 120VAC, 10AMPS | BUYER | YIC-DTT-004 | OUTPUT | ----- | |
| MC CART AUX | BUYER | DISCRETE | SELLER | SELLER | YIC-DTT-004 | INPUT | ----- | |
| SIC-DTT-003 | BUYER | 4 - 20MADC | ----- | SELLER | YIC-DTT-003 | OUTPUT | ----- | |
| SIC-DTT-004 | BUYER | 4 - 20MADC | ----- | SELLER | YIC-DTT-004 | OUTPUT | ----- | |
| ZSH-IAX-086 | BUYER | DISCRETE | SELLER | SELLER | YIC-IAX-086 | INPUT | ----- | |
| ZSL-IAX-086 | BUYER | DISCRETE | SELLER | SELLER | YIC-IAX-086 | INPUT | ----- | |

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U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
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Rev. 0

| REMOTE INSTRUMENT | REMOTE INSTR BY | SIGNAL | CONTACT RATING | POWER SOURCE | PANEL INSTR FUNCTION | INPUT/OUTPUT | RANGE IN ENG UNITS | NOTES |
|-------------------|-----------------|----------|----------------|--------------|----------------------|--------------|--------------------|-------|
| YV-IAX-086 | BUYER | DISCRETE | 120VAC, 5AMPS | SELLER | YIC-IAX-086 | OUTPUT | ----- | |
| ZSH-IAX-092 | BUYER | DISCRETE | SELLER | SELLER | YIC-IAX-092 | INPUT | ----- | |
| ZSL-IAX-092 | BUYER | DISCRETE | SELLER | SELLER | YIC-IAX-092 | INPUT | ----- | |
| YV-IAX-092 | BUYER | DISCRETE | 120VAC, 5AMPS | SELLER | YIC-IAX-092 | OUTPUT | ----- | |
| YV-IAX-034 | BUYER | DISCRETE | 120VAC, 5AMPS | SELLER | YIC-IAX-034 | OUTPUT | ----- | |
| ZSH-IAX-034 | BUYER | DISCRETE | SELLER | SELLER | YIC-IAX-034 | INPUT | ----- | |
| ZSL-IAX-034 | BUYER | DISCRETE | SELLER | SELLER | YIC-IAX-034 | INPUT | ----- | |

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Rev. 0

ATTACHMENT B
POUR TURNTABLE LOCAL PANEL (LP-130-001) I/O LIST

| REMOTE INSTRUMENT | REMOTE INSTR. BY | SIGNAL | CONTACT RATING | POWER SOURCE | PANEL INSTR FUNCTION | INPUT/OUTPUT | RANGE IN ENG UNITS | NOTES |
|-------------------|------------------|------------|-----------------|--------------|----------------------|--------------|--------------------|-------|
| LIT-PTT-001 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | LI-PTT-001A | INPUT | 1 INCH | |
| LIT-PTT-002 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | LI-PTT-002A | INPUT | 10 INCH | |
| LIT-PTT-003 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | LI-PTT-003A | INPUT | 20 INCH | |
| LIT-PTT-004 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | LI-PTT-004A | INPUT | 40 INCH | |
| LIT-PTT-005 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | LI-PTT-005A | INPUT | 56 INCH | |
| LIT-PTT-006 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | LI-PTT-006A | INPUT | 70 INCH | |
| LIT-PTT-007 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | LI-PTT-007A | INPUT | 80 INCH | |
| LIT-PTT-008 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | LI-PTT-008A | INPUT | 90 INCH | |
| LIT-PTT-009 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | LI-PTT-009A | INPUT | 91 INCH | |
| LIT-PTT-010 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | LI-PTT-010A | INPUT | 95 INCH | |
| LIT-PTT-011 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | LI-PTT-011A | INPUT | 114 INCH | |
| LIT-PTT-012 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | LI-PTT-012A | INPUT | 124 INCH | |
| LIT-PTT-013 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | LI-PTT-013A | INPUT | 40 INCH | |
| LIT-PTT-014 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | LI-PTT-014A | INPUT | 70 INCH | |
| LIT-PTT-015 | BUYER | DISCRETE | 120VAC, 0.5AMPS | SELLER | LI-PTT-015A | INPUT | 90 INCH | |
| XA-PTT-017B | BUYER | DCS SOFT | ----- | SELLER | XA-PTT-017A | INPUT | ----- | |
| WIT-PTT-024 | SELLER | 4 - 20MADC | ----- | SELLER | WI-PTT-024A | INPUT | 0 - 6000 LBS | |
| WI-PTT-024B | BUYER | DCS SOFT | ----- | SELLER | WI-PTT-024A | OUTPUT | 0 - 6000 LBS | |
| YI-PTT-027 | SELLER | PLC SOFT | ----- | SELLER | YIC-PTT-027 | OUTPUT | ----- | |
| ZI-PTT-020B | BUYER | DCS SOFT | ----- | SELLER | ZI-PTT-020A | OUTPUT | ----- | |
| ZI-PTT-023B | BUYER | DCS SOFT | ----- | SELLER | ZI-PTT-023B | OUTPUT | ----- | |

951336.0980

Rev. 0

| REMOTE INSTRUMENT | REMOTE INSTR BY | SIGNAL | CONTACT RATING | POWER SOURCE | PANEL INSTR FUNCTION | INPUT/OUTPUT | RANGE IN ENG UNITS | NOTES |
|-------------------|-----------------|----------|----------------|--------------|----------------------|--------------|--------------------|-------|
| ZS-PTT-019 | SELLER | DISCRETE | SELLER | SELLER | ZI-PTT-019 | INPUT | ----- | |
| ZS-PTT-020 | SELLER | DISCRETE | SELLER | SELLER | ZI-PTT-020A, 020C | INPUT | ----- | |
| ZS-PTT-021 | SELLER | DISCRETE | SELLER | SELLER | ZI-PTT-021 | INPUT | ----- | |
| ZS-PTT-022 | SELLER | DISCRETE | SELLER | SELLER | ZI-PTT-022 | INPUT | ----- | |
| ZS-PTT-023 | SELLER | DISCRETE | SELLER | SELLER | ZI-PTT-023A | INPUT | ----- | |
| ZSH-PTT-045A | SELLER | DISCRETE | SELLER | SELLER | YIC-PTT-045A | INPUT | ----- | |
| ZSL-PTT-045A | SELLER | DISCRETE | SELLER | SELLER | YIC-PTT-045A | INPUT | ----- | |
| ZSH-PTT-045B | SELLER | DISCRETE | SELLER | SELLER | YIC-PTT-045A | INPUT | ----- | |
| ZSL-PTT-045B | SELLER | DISCRETE | SELLER | SELLER | YIC-PTT-045A | INPUT | ----- | |
| HIS-PTT-019 | SELLER | DISCRETE | SELLER | SELLER | YIC-PTT-031 | INPUT | ----- | |
| HIS-PTT-021 | SELLER | DISCRETE | SELLER | SELLER | YIC-PTT-031 | INPUT | ----- | |
| HS-PTT-031 | SELLER | DISCRETE | SELLER | SELLER | YIC-PTT-031 | INPUT | ----- | |
| HIS-PTT-32B | SELLER | DISCRETE | SELLER | SELLER | YIC-PTT-031 | INPUT | ----- | |
| HIS-PTT-032A | SELLER | DISCRETE | SELLER | SELLER | YIC-PTT-031 | INPUT | | |
| ZSH-IAX-099A | SELLER | DISCRETE | SELLER | SELLER | ZIH-IAX-099A | INPUT | ----- | |
| ZSL-IAX-099A | SELLER | DISCRETE | SELLER | SELLER | ZIL-IAX-099A | INPUT | ----- | |
| ZSH-IA-099B | SELLER | DISCRETE | SELLER | SELLER | ZIH-IAX-099B | INPUT | ----- | |
| ZSL-IA-099B | SELLER | DISCRETE | SELLER | SELLER | ZIL-IAX-099B | INPUT | ----- | |
| MC TURNTABLE S/S | BUYER | DISCRETE | 120VAC, 10AMPS | BUYER | YIC-PTT-030 | OUTPUT | ----- | |
| ZIH-PTT-045B | BUYER | DC SOFT | ----- | SELLER | YIC-PTT-045A | OUTPUT | ----- | |
| ZIL-PTT-045B | BUYER | DC SOFT | ----- | SELLER | YIC-PTT-045A | OUTPUT | | |
| MC TURNTABLE AUX | BUYER | DISCRETE | SELLER | SELLER | YIC-PTT-030 | INPUT | ----- | |
| MC CART S/S | BUYER | DISCRETE | 120VAC, 10AMPS | BUYER | YIC-PTT-031 | OUTPUT | ----- | |
| MC CART AUX | BUYER | DISCRETE | SELLER | SELLER | YIC-PTT-031 | INPUT | ----- | |

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

| REMOTE INSTRUMENT | REMOTE INSTR BY | SIGNAL | CONTACT RATING | POWER SOURCE | PANEL INSTR FUNCTION | INPUT/OUTPUT | RANGE IN ENG UNITS | NOTES |
|-------------------|-----------------|------------|----------------|--------------|----------------------|--------------|--------------------|-------|
| SIC-PTT-030 | BUYER | 4 - 20MADC | ----- | SELLER | YIC-PTT-030 | OUTPUT | ----- | |
| SIC-PTT-031 | BUYER | 4 - 20MADC | ----- | SELLER | YIC-PTT-031 | OUTPUT | ----- | |
| YIC-IAX-093B | BUYER | DC SOFT | ----- | SELLER | YIC-IAX-093A | IN/OUT | | |
| ZA-IAX-099B | BUYER | DC SOFT | ----- | SELLER | ZA-IAX-099A | OUTPUT | | |
| MC POSIT ARM S/S | BUYER | DISCRETE | 120VAC, 10AMPS | BUYER | YIC-PTT-046 | OUTPUT | ----- | |
| MC POSIT ARM AUX | BUYER | DISCRETE | SELLER | SELLER | YIC-PTT-046 | INPUT | ----- | |
| YV-IAX-092 | BUYER | DISCRETE | 120VAC, 5AMPS | SELLER | YIC-IAX-092 | OUTPUT | ----- | |
| ZSH-IAX-092 | BUYER | DISCRETE | SELLER | SELLER | YIC-IAX-092 | INPUT | ----- | |
| ZSL-IAX-092 | BUYER | DISCRETE | SELLER | SELLER | YIC-IAX-092 | INPUT | ----- | |
| PIT-IAX-084 | BUYER | 4 - 20MADC | ----- | BUYER (DCS) | YIC-IAX-086 | INPUT | 0 - 35 PSI | |

9513336.0982

SECTION 17886
INSTRUMENTS FURNISHED WITH MECHANICAL EQUIPMENT
LOAD CELL SIGNAL CONDITIONER
POUR AND DRAIN TURNTABLES
B-595-P-P06B-17886

TABLE OF CONTENTS

| <u>PART</u> | | <u>PAGE</u> |
|---------------|--|-------------|
| PART 1 | GENERAL | 1 |
| 1.1 | SUMMARY | 1 |
| 1.2 | REFERENCES | 1 |
| 1.3 | RELATED REQUIREMENTS | 2 |
| 1.4 | DEFINITIONS | 2 |
| 1.5 | SYSTEM DESCRIPTION | 2 |
| 1.6 | SUBMITTALS | 2 |
| 1.7 | CLASSIFICATION OF SYSTEMS AND COMPONENTS | 2 |
| 1.8 | PROJECT OR SITE ENVIRONMENTAL CONDITIONS | 3 |
| 1.9 | UTILITIES | 3 |
| PART 2 | PRODUCTS | 3 |
| 2.1 | MATERIALS AND EQUIPMENT | 3 |
| 2.2 | FABRICATION AND MANUFACTURE | 5 |
| 2.3 | FACTORY ACCEPTANCE TESTS (FAT) | 5 |
| 2.4 | PACKAGING AND SHIPPING | 5 |
| PART 3 | EXECUTION | 6 |

9513336.0984

**SECTION 17886
INSTRUMENTS FURNISHED WITH MECHANICAL EQUIPMENT
LOAD CELL SIGNAL CONDITIONER
POUR AND DRAIN TURNTABLES**

PART 1 GENERAL

1.1 SUMMARY

This section defines the requirements for the supply, inspection, and testing of instruments furnished with the Pour Turntable TU-130-001, specified in Specification Section 14601 and in the Drain Turntable, TU-130-002, specified in Specification Section 14602. Installation of the instruments is not in this Order/Subcontract.

1.2 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designations only.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ANSI/ASME B1.20.1 1983 Pipe Threads, General Purpose (Inch)

INSTRUMENT SOCIETY OF AMERICA (ISA)

ISA S20 1981 Specification Forms for Process
Measurement and Control Instruments,
Primary Elements and Control Valves

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

ANSI/NEMA 250 1985 Enclosures for Electrical Equipment
(1000 Volts Maximum)

Revision No. 1-May 1986
Revision No. 2-May 1988

UNDERWRITERS LABORATORIES (UL)

Directory 1990 Electrical Appliance and Utilization
Equipment Directory

Directory 1990 Recognized Component Directory

1.2.1 Reference Drawings

Drawing No. H-2-123150 P&ID System 13 Drain Turntable
Sheet 3 of 22

1.3 RELATED REQUIREMENTS

Specification Section 01730 Operation and Maintenance Data
Specification Section 14602 Drain Turntable
Specification Section 17857 Local Control Panels for Pour and
Drain Turntables
Specification Section 17908 Instruments Furnished with
Mechanical Equipment Pour and Drain
Turntables

1.4 DEFINITIONS

(Not Used)

1.5 SYSTEM DESCRIPTION

The system and the Seller's responsibilities for detailed system design are defined in Paragraph 1.5 of Specification Section 17857.

1.6 SUBMITTALS

Submit the following in accordance with the Vendor Drawing and Data Requirements section of the Order/Subcontract.

- 1.6.1 Catalog cuts describing each instrument and accessory.
- 1.6.2 Manufacturers' installation drawings and instructions.
- 1.6.3 Manufacturers' operation and maintenance manuals in accordance with Specification Section 01730.
- 1.6.4 Instrument data sheets similar to ISA S20, completed in accordance with ISA S20 instructions.
- 1.6.5 Instrument list showing tag number, service, manufacturer, model number, range and setpoint if applicable.
- 1.6.6 Factory Acceptance Test (FAT) procedure including the requirements in Paragraph 2.3.1.
- 1.6.7 Report confirming the FAT procedure was executed and the results.

1.7 CLASSIFICATION OF SYSTEMS AND COMPONENTS

(Not Used)

1.8 PROJECT OR SITE ENVIRONMENTAL CONDITIONS

1.8.1 Climatic and Geographic Site Conditions

- A. Site Elevation 714 feet above sea level
- B. Barometric Pressure 14.3 psia
- C. Outside Design Temperature
 - 1) Maximum Design Temperature 110°F
 - 2) Minimum Design Temperature -20°F
 - 3) Wet Bulb Design Temperature 68°F

1.8.2 Operating Environment

- A. Normal Operating Temperature 68°F to 78°F
- B. Maximum Operating Temperature 104°F
- C. Minimum Operating Temperature 60°F
- D. Relative Humidity Not Controlled

1.9 UTILITIES

(Not Used)

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

2.1.1 General

2.1.1.1 Provide load cell signal conditioners appropriate for the applications listed below, including correct range, temperature rating, and materials of construction to operate under the conditions of Paragraph 1.8.

2.1.1.2 Load cell signal conditioner shall include the features listed below:

- A. Identical manufacturer and catalog numbers for components with the same specifications.
- B. 24 Vdc loop powered or 120 V, 60 Hz, power input.

- C. Accuracy total weighing system shall be ± 1 percent full scale.
- D. Output signal 4-20 mA dc.
- E. Input compatible with Load Cell specified in Specification Section 17908.
- F. ANSI/ASME B1.20.1 threaded connections.
- G. ANSI/NEMA 250, Type 4X electrical enclosures.
- H. 1/2 inch National Pipe Thread (NPT) conduit connection.
- I. Minimum 100 ft. transmission distance without signal deterioration from the load cell to the load cell signal conditioner.
- J. Weighing system calibration is provided from the signal conditioner unit.
- K. International Scientific Research (ISR) Transducer Div. Model SCI-5000 or equal.

| INSTRUMENT TAG NUMBER | SERVICE DESCRIPTION |
|-----------------------|--|
| WIT-PTT-024 | Pour Turntable Load Cell Signal Conditioner |
| WIT-DTT-020 | Drain Turntable Load Cell Signal Conditioner |

- 2.1.1.3 Provide a stainless steel tag, 18 ga. minimum, with the instrument tag number and Seller's service description stamped or engraved, affixed to each instrument with stainless steel wire (preferred), stainless steel screws or rivets. If the instrument size or configuration prevents the use of a separate tag, propose an alternate method of tagging, such as engraving or stamping for Buyer approval.
- 2.1.1.4 Electrical components or devices which operate at voltage higher than 30 volts or energy greater than 100 VA shall be UL Listed Devices, UL Recognized Components, or FM Approved Devices (refer to UL and FM directories).
- 2.1.1.5 Radio frequency interference from 20 to 1000 M Hz with a field strength of 30 volts per meter shall not affect the output of a transmitter, installed with grounded conduit by more than ± 0.1 percent of span.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

2.2 FABRICATION AND MANUFACTURE

(Not Used)

2.3 FACTORY ACCEPTANCE TESTS (FAT)

2.3.1 Prepare a FAT procedure and submit it for approval. Include:

Load cell calibration shall be remotely from the signal conditioning device.

A. Tests to demonstrate compatibility of load cell (specified in Specification Section 17908) and transducer signal conditioner.

B. Inspection to confirm that instruments are new and not damaged.

C. Inspection to verify code compliance.

2.3.2 Inspect and test the instruments according to the Buyer approved FAT procedure.

2.3.3 Submit a report confirming the FAT procedure has been completed and the results include:

A. Item tested

B. Date of test

C. Tester or data record

D. Type of observation

E. Results and acceptability

F. Action taken in connection with any deviations noted

G. Person evaluating test results

2.4 PACKAGING AND SHIPPING

2.4.1 Repack loose instruments and equipment in the manufacturers' original packing material. Accumulate these in a separate crate marked "INSTRUMENTS" with identification to relate it to the equipment it serves.

2.4.2 Protect instruments from moisture, vibration, shock and heat damage while in transit or storage.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

9513336.0989

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Advanced Technology Division
Fluor Contract 8457

Rev. 0

PART 3 EXECUTION

(Not Used)

END OF SECTION

9513336.0990

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

SECTION 17908
INSTRUMENTS FURNISHED WITH MECHANICAL EQUIPMENT
POUR AND DRAIN TURNTABLES
B-595-P-P06B-17908

APPROVED FOR CONSTRUCTION

REVISION 0
ISSUE DATE 4-6-93

WAPA YES NO X
QUALITY LEVEL I II X
SAFETY CLASS 1 2 3 X 4

ORIGINATOR:

CHECKER:

Robert L. Layne 3/29/93
R. L. Layne, Control Sys. Eng. Date

B.R. Carlisle 3/29/93
B. R. Carlisle, Control Sys. Eng. Date

APPROVED BY:

J.B. Bunning
J. B. Bunning Lead Discipline Engineer

03/29/93
Date

SECTION 17908
INSTRUMENTS FURNISHED WITH MECHANICAL EQUIPMENT
POUR AND DRAIN TURNTABLES
B-595-P-P06B-17908

TABLE OF CONTENTS

| <u>PART</u> | | <u>PAGE</u> |
|---------------|--|-------------|
| PART 1 | GENERAL | 1 |
| 1.1 | SUMMARY | 1 |
| 1.2 | REFERENCES | 1 |
| 1.3 | RELATED REQUIREMENTS | 2 |
| 1.4 | DEFINITIONS | 2 |
| 1.5 | SYSTEM DESCRIPTION | 2 |
| 1.6 | SUBMITTALS | 2 |
| 1.7 | CLASSIFICATION OF SYSTEMS AND COMPONENTS | 3 |
| 1.8 | PROJECT OR SITE ENVIRONMENTAL CONDITIONS | 3 |
| 1.9 | UTILITIES | 4 |
| PART 2 | PRODUCTS | 4 |
| 2.1 | MATERIALS AND EQUIPMENT | 4 |
| 2.2 | FABRICATION AND MANUFACTURE | 7 |
| 2.3 | FACTORY ACCEPTANCE TESTS (FAT) | 8 |
| 2.4 | PACKAGING AND SHIPPING | 8 |
| PART 3 | EXECUTION | 9 |

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

**SECTION 17908
INSTRUMENTS FURNISHED WITH MECHANICAL EQUIPMENT
POUR AND DRAIN TURNTABLES**

PART 1 GENERAL

1.1 SUMMARY

This specification defines the requirements for the supply, installation, inspection and testing of instruments furnished with the Pour Turntable TU-130-001, specified in Specification Section 14601 and in the Drain Turntable, TU-130-002, specified in Specification Section 14602.

1.2 REFERENCES

- 1.2.1** The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ANSI/ASME B1.20.1 1983 Pipe Threads, General Purpose (Inch)

FACTORY MUTUAL (FM)

Directory 1991 Approval Guide

INSTRUMENT SOCIETY OF AMERICA (ISA)

ISA S5.1 1984 Instrument Symbols and Identification

ISA S20 1981 Specification Forms for Process
Measurement and Control Instruments,
Primary Elements and Control Valves

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

ANSI/NEMA 250 1985 Enclosures for Electrical Equipment
(1000 Volts Maximum)

Revision No. 1 - May 1986

Revision No. 2 - May 1988

UNDERWRITERS LABORATORIES INC. (UL)

Directory 1990 Electrical Appliance and Utilization
Equipment Directory

Directory 1990 Recognized Component Directory

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

1.2.2 Reference Drawings

Drawing No. H-2-123150
Sheet 1, 2 of 22

P&ID System 13 Pour Turntable

Drawing No. H-2-123150
Sheet 3 of 22

P&ID System 13 Drain Turntable

Drawing No. H-2-123150
Sheet 5 of 22

P&ID System 13 Melter Drain Valve
and Drain Bellows

Drawing No. H-2-123150
Sheet 6 of 22

P&ID System 13 Melter Pressure Level
and Pour Control

1.3 RELATED REQUIREMENTS

Specification Section 01730

Operation and Maintenance Data

Specification Section 14601

Pour Turntable

Specification Section 14602

Drain Turntable

Specification Section 16610

Electrical Requirements for Packaged
Equipment

Specification Section 17857

Local Control Panels for Pour and
Drain Turntables

Specification Section 17886

Instruments Furnished with
Mechanical Equipment Load Cell
Signal Conditioner Pour and Drain
Turntables

1.4 DEFINITIONS

(Not Used)

1.5 SYSTEM DESCRIPTION

The system and the Seller's responsibilities for detailed system design are defined in Paragraph 1.5 of Specification Section 17857.

1.6 SUBMITTALS

Submit the following in accordance with the Vendor Drawing and Data Requirements section of the Order/Subcontract.

- 1.6.1 Catalog cuts describing each instrument and accessory.
- 1.6.2 Manufacturers' certified installation drawings and instructions.
- 1.6.3 Manufacturers' operation and maintenance manuals in accordance with Specification Section 01730.
- 1.6.4 Instrument data sheets similar to ISA S20, completed in accordance with ISA S20 instructions.
- 1.6.5 Instrument list showing tag number, service, manufacturer, model number, range and setpoint if applicable.
- 1.6.6 Factory Acceptance Test (FAT) procedure including the requirements in Paragraph 2.3.1.
- 1.6.7 Report confirming the FAT procedure was executed and the results.
- 1.7 **CLASSIFICATION OF SYSTEMS AND COMPONENTS**
(Not Used)
- 1.8 **PROJECT OR SITE ENVIRONMENTAL CONDITIONS**
 - 1.8.1 Climatic and Geographic Site Conditions
 - A. Site Elevation 714 feet above sea level
 - B. Barometric Pressure 14.3 psia
 - C. Outside Design Temperature
 - 1) Maximum Design Temperature 110°F
 - 2) Minimum Design Temperature -20°F
 - 3) Wet Bulb Design Temperature 68°F
 - 1.8.2 Operating Environment
 - A. Normal Operating Temperature 60° to 104°F
 - B. Maximum Operating Temperature 104°F
 - C. Minimum Operating Temperature 60°F
 - D. Relative Humidity Not Controlled

1.8.3 Radiation Exposure

Instruments will be exposed to radiation during normal plant operations. The instrumentation provided shall be capable of withstanding a total integrated dose of 6.5×10^8 rads or have a normal service of 3 years before the effects of radiation exposure deteriorate its performance.

1.9 UTILITIES

(Not Used)

PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

2.1.1 General

- 2.1.1.1** Provide instrumentation appropriate for the application, including correct range, temperature rating, and materials of construction to operate under the conditions of Paragraph 1.8.
- 2.1.1.2** Provide accessories, materials and methods of fabrication not included in this specification, but which are necessary to complete the installation of the instrumentation.
- 2.1.1.3** When two or more components with the same specification are required, the components shall be identical (same manufacturer and catalog number).
- 2.1.1.4** Electrical components or devices which operate at voltages higher than 30 volts or energy greater than 100 VA shall be UL Listed Devices, UL Recognized Components, or FM Approved Devices (refer to UL and FM directories).
- 2.1.1.5** Instrument electrical enclosures shall be ANSI/NEMA 250, Type 4X.
- 2.1.1.6** Discrete signals shall be 120 Vac.
- 2.1.1.7** Instrument conduit connections shall be in accordance with ANSI/ASME B1.20.1.
- 2.1.1.8** Provide a stainless steel tag, 18 ga. minimum, with the instrument tag number and Seller's service description stamped or engraved, affixed to each instrument with stainless steel wire (preferred), stainless steel screws or rivets. If the instrument size or configuration prevents the use of a separate tag, propose an alternate method of tagging, such as engraving or stamping for Buyer approval.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

2.1.2 Instruments furnished by the Seller shall be appropriate for the applications listed below:

2.1.2.1 Limit Switches for bellows position:

- A. Single pole, double throw contacts rated to handle the switched load.
- B. No solid state components.
- C. 3/4-inch National Pipe Thread (NPT) conduit connection.
- D. High temperature switch up to +1,000°F.
- E. Honeywell Microswitch Model 3HT1 or equal.

| INSTRUMENT TAG NUMBER | SERVICE DESCRIPTION |
|-----------------------|--|
| ZSH-IAX-099A | Pour Spout Bellows, Bellows Retracted |
| ZSH-IAX-099B | Pour Spout Bellows, Bellows Retracted |
| ZSL-IAX-099A | Pour Spout Bellows, Bellows Extended |
| ZSL-IAX-099B | Pour Spout Bellows, Bellows Extended |
| ZSH-IAX-066A | Drain Valve Probe Bellows, Bellows Retracted |
| ZSH-IAX-066B | Drain Valve Probe Bellows, Bellows Retracted |
| ZSL-IAX-066A | Drain Valve Probe Bellows, Bellows Extended |
| ZSL-IAX-066B | Drain Valve Probe Bellows, Bellows Extended |
| ZSH-IAX-037A | Drain Valve Backup Plug Bellows, Bellows Retracted |
| ZSH-IAX-037B | Drain Valve Backup Plug Bellows, Bellows Retracted |
| ZSL-IAX-037A | Drain Valve Backup Plug Bellows, Bellows Extended |
| ZSL-IAX-037B | Drain Valve Backup Plug Bellows, Bellows Extended |
| ZSH-IAX-089A | Drain Bellows, Bellows Retracted |
| ZSH-IAX-089B | Drain Bellows, Bellows Retracted |
| ZSL-IAX-089A | Drain Bellows, Bellows Extended |

| INSTRUMENT TAG NUMBER | SERVICE DESCRIPTION |
|-----------------------|---------------------------------|
| ZSL-IAX-089B | Drain Bellows, Bellows Extended |
| ZSH-PTT-045A | Canister Positioning Arm Open |
| ZSH-PTT-045B | Canister Positioning Arm Open |
| ZSL-PTT-045A | Canister Positioning Arm Close |
| ZSL-PTT-045B | Canister Positioning Arm Close |

2.1.2.2 Limit Switches for turntable cart position:

- A. Double pole, double throw contacts rated to handle the switched load.
- B. No solid state components.
- C. 3/4-inch NPT conduit connection.
- D. Namco Model EA 170-XXXXX or equal.

| INSTRUMENT TAG NUMBER | SERVICE DESCRIPTION |
|-----------------------|------------------------------------|
| ZS-PTT-019 | Pour Turntable Forward Low Speed |
| ZS-PTT-021 | Pour Turntable Reversed Low Speed |
| ZS-PTT-022 | Pour Turntable Cart Low Speed |
| ZS-PTT-023 | Pour Turntable Cart in Position |
| ZS-DTT-006 | Drain Turntable Forward Low Speed |
| ZS-DTT-008 | Drain Turntable Reversed Low Speed |
| ZS-DTT-009 | Drain Turntable Cart Low Speed |
| ZS-DTT-010 | Drain Turntable Cart in Position |

2.1.2.3 Limit Switches for canister position:

- A. Double pole, double throw contacts rated to handle the switched load.
- B. No solid state components.
- C. 3/4-inch NPT conduit connection.
- D. Namco Model EA 740-XXXXX or equal.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

| INSTRUMENT TAG NUMBER | SERVICE DESCRIPTION |
|-----------------------|--------------------------------------|
| ZS-PTT-020 | Pour Turntable Canister in Position |
| ZS-DTT-007 | Drain Turntable Canister in Position |

2.1.2.4 Load Cells

- A. Overload protection to 9,000 pound total weight.
- B. No solid state electronics.
- C. 0 to 6,000 lb capacity.
- D. Output compatible with transducer specified in Specification Section 17886.
- E. Vendor to confirm that the total weighting system accuracy is ± 1 percent of full scale.
- F. 3/4 inch NPT conduit connection.
- G. International Scientific Research (ISR) Transducer Div. Model CLC-S95-006K or equal.

| INSTRUMENT TAG NUMBER | SERVICE DESCRIPTION |
|-----------------------|---------------------------|
| WE-PTT-024 | Pour Turntable Load Cell |
| WE-DTT-020 | Drain Turntable Load Cell |

2.2 FABRICATION AND MANUFACTURE

2.2.1 Instrument Mounting

2.2.1.1 Mount and support instruments in accordance with manufacturer's installation documents and Contract Drawings.

2.2.1.3 Mount instruments and components to allow for adjustments or replacement without disturbing wiring or other equipment.

2.2.2 Piping

2.2.2.1 This equipment does not require piping.

2.2.3 Wiring

2.2.3.1 Wiring material and installation methods shall comply with Specification Section 16610.

2.3 FACTORY ACCEPTANCE TESTS (FAT)

2.3.1 Prepare a FAT procedure and submit it to the Buyer for approval, Include:

- A. Inspections/tests to demonstrate that the fabrication and assembly of the materials and equipment meet the requirements of the Contract Drawings and specifications.**
- B. Inspection to confirm that instruments are new and undamaged.**
- C. Inspection to confirm equipment installation, location, and mounting.**
- D. Inspection to verify code compliance.**

2.3.2 Inspect and test the instrument installations according to the Buyer approved FAT procedure.

2.3.3 Submit a report confirming the FAT procedure has been completed and the results include:

- A. Item tested**
- B. Date of test**
- C. Tester or data recorder**
- D. Type of observation**
- E. Results and acceptability**
- F. Action taken in connection with any deviations noted**
- G. Person evaluating test results**

2.4 PACKAGING AND SHIPPING

2.4.1 Reinstall shipping stops which were removed for calibration and testing.

2.4.2 Install temporary additional shipping supports for instruments and equipment to be shipped mounted on mechanical equipment. Identify temporary shipping supports by contrasting color, tag or label to simplify location and removal prior to installation of equipment.

U.S. DEPARTMENT OF ENERGY
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

FLUOR DANIEL, INC.
Advanced Technology Division
Fluor Contract 8457

Rev. 0

- 2.4.3 Repack loose instruments and equipment, including those removed from the mechanical equipment for shipment, in the manufacturer's original packing material. Accumulate these in a separate crate marked "INSTRUMENTS" with identification to relate it to the equipment it serves.
- 2.4.4 Protect instruments from moisture, vibration, shock, and heat damage while in transit or storage.

PART 3 EXECUTION

(Not Used)

END OF SECTION

APR - 8 1993

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|------------------------|----------|--|-------------------|----------------------|-----|--|
| 0 | 4-6-93 | APPROVED FOR CONSTRUCTION | JLD | AKY | JLD | |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B116013A | | CADCODE | 2B:IBM:ACD2:10.C2:SS | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | |
| ERO _____ | | Richland Field Office DE - AC06-86RL10B38 | | | | |
| SIGNATURE | | DATE | | | | |
| PROJ DIR | | 4/6/93 | | | | |
| DA MGR | | 4/6/93 | | | | |
| INDEPENDENT SAFETY MGR | | 4/6/93 | | | | |
| PROJECT MGR | | 4/6/93 | | | | |
| SYSTEMS MGR | | 4/6/93 | | | | |
| ENGINEERING MGR | | 4/6/93 | | | | |
| SUPERVISOR | | 3/30/93 | | | | |
| DESIGN ENGINEER | | 3/30/93 | | | | |
| CHECKED | | 3/30/93 | | | | |
| DRAWN | | 10-21-92 | | | | |
| CLASSIFICATION | | BY | | DRAWING NUMBER | | |
| NONE | | NOT REQD | | H-2-116013 | | |
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FLUOR DANIEL, INC.
ADVANCED TECHNOLOGY DIVISION

MELTER POUR & DRAIN TURNTABLE TITLE SHEET

PROJECT TITLE
HANFORD WASTE VITRIFICATION PLANT

PROJECT B-595 FLUOR CONTRACT NO. 8457 CWBS NO. P06B

SCALE NONE BLDG NO. 1 INDEX NO.

DISTRIBUTION CODE: 301

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INITIALS: SS
DATE: 03-30-93

APR - 8 1993

| 0 | 4-6-93 | APPROVED FOR CONSTRUCTION | JLD | CS | JLD | SS |
|---|--------|---------------------------|--|-----|----------------------|-----|
| | | | HLD | AKY | OK | P20 |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | | B116014A | CADCODE | | 2B:IBM:ACD2:10.C2:SS | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10B38 | | | |
| REV _____ DATE _____ | | | | | | |
| ERO _____ | | | FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | |
| SIGNATURE _____ DATE _____ | | | | | | |
| PROJ. MGR. <i>[Signature]</i> 6/10/93 | | | MELTER POUR & DRAIN TURNTABLE DRAWING INDEX | | | |
| BA MGR. <i>[Signature]</i> 4/1/93 | | | | | | |
| INDEPENDENT SAFETY MGR. <i>[Signature]</i> 4/6/93 | | | | | | |
| PROJECT MGR. <i>[Signature]</i> 4/6/93 | | | | | | |
| SYSTEMS MGR. <i>[Signature]</i> 4/6/93 | | | | | | |
| ENGINEERING MGR. <i>[Signature]</i> 4/6/93 | | | | | | |
| SUPERVISOR. <i>[Signature]</i> 3/30/93 | | | | | | |
| DESIGN ENGINEER. <i>[Signature]</i> 3/30/93 | | | | | | |
| CHECKED. <i>[Signature]</i> 3/30/93 | | | | | | |
| DRAWN. S.SAM 10-23-92 | | | | | | |
| CLASSIFICATION | | | BY | | DRAWING NUMBER | |
| NONE | | | NOT REQD | | H-2-116014 | |
| PROJECT TITLE | | | HANFORD WASTE VITRIFICATION PLANT | | | |
| PROJECT | | | FLUOR CONTRACT NO. | | CWBS NO. | |
| B-595 | | | 8457 | | P06B | |
| SCALE | | | BLDG NO. | | INDEX NO. | |
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| 0 | 4-6-93 | APPROVED FOR CONSTRUCTION | JLD | SS | JLD | AKY | PL | RS |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | | |
| CADFILE | B116014B | | CADCODE | 2B:IBM:ACD2:10.C2:SS | | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office</p> <p>DE - AC06-B6RL10838</p> | | | | | |
| REV _____ DATE _____ | | | | | | | | |
| ERO _____ | | |  <p>FLUOR DANIEL, INC.</p> <p>ADVANCED TECHNOLOGY DIVISION</p> | | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | | |
| PROJECT MGR _____ 4/6/93 | | | <p>MELTER POUR & DRAIN TURNABLE DRAWING INDEX</p> | | | | | |
| QA MGR _____ 4/6/93 | | | | | | | | |
| INDEPENDENT SAFETY MGR _____ 4/6/93 | | | | | | | | |
| PROJECT MGR _____ 4/6/93 | | | | | | | | |
| SYSTEMS MGR _____ 4/6/93 | | | | | | | | |
| ENGINEERING MGR _____ 4/6/93 | | | | | | | | |
| SUPERVISOR _____ 3/30/93 | | | | | | | | |
| DESIGN ENGINEER _____ 3/30/93 | | | | | | | | |
| CHECKED _____ 3/30/93 | | | | | | | | |
| DRAWN _____ 10-23-92 | | | | | | | | |
| CLASSIFICATION | | | PROJECT TITLE | | | PROJECT | | |
| NONE | | | HANFORD WASTE VITRIFICATION PLANT | | | B-595 | | |
| BY | | | FLUOR CONTRACT NO. | | | CWBS NO. | | |
| NOT REQD | | | 8457 | | | P06B | | |
| | | | BLDG NO. | | | INDEX NO. | | |
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DATE: 03-30-93

QUALITY LEVEL II
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|---|---------------------------------|---|---|-----------------------------------|-------------------------|-----------------|
| 0 | 04 06 93 | APPROVED FOR CONSTRUCTION | REG | RC | CD | NA NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA |
| CADFILE | B120302A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 POUR TURNTABLE PARTS LIST & NOTES | | | |
| PROJ DIR NA | | | | | | |
| QA MGR NA | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | |
| PROJECT MGR NA | | | | | | |
| SYSTEMS MGR NA | | | | | | |
| ENGINEERING MGR NA | | | | | | |
| SUPERVISOR C. DIVONA <i>C/D</i> | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | |
| DESIGN ENGINEER R. CHOATE <i>R/C</i> | | 11-3-92 | | | | |
| G INDEX | CHECKED E. GARCIA <i>E/G</i> | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | |
| | DRAWN P. NGUYEN | 02/27/92 | SCALE NONE | BLDG NO. 1 | INDEX NO. | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120302 | | SHEET 1 | OF 18 |
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|------------------------|----------|--|---|----------------------|----|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | LEG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120302B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001 POUR TURNTABLE ASSEMBLY</p> | | | | | |
| REV | DATE | | | | | | |
| ERO | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA | 11-3-92 | | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | 11-3-92 | | PROJECT B-595 FLUOR CONTRACT NO. 8457 CWBS NO. P06B | | | | |
| CHECKED | | | | | | | |
| E. GARCIA | 11-2-92 | | SCALE 1/8 BLDG NO. 1 INDEX NO. | | | | |
| DRAWN | | | | | | | |
| P. NGUYEN | 03/03/92 | | DRAWING NUMBER H-2-120302 SHEET 2 OF 18 REV 0 | | | | |
| CLASSIFICATION | | | | | | | |
| NONE | NOT REOD | | | | | | |

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| 0 | C4/06/93 | APPROVED FOR CONSTRUCTION | REG | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|---|----------------------|----|----|-----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120302C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10B38 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 POUR TURNTABLE ASSEMBLY | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA C/D | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE RBC | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED | | | | | | | |
| E. GARCIA RBC | | 11-2-92 | FLUOR CONTRACT NO. 8457 | | | | |
| DRAWN | | | | | | | |
| P. NGUYEN | | 05/07/92 | BLDG NO. 1 | | | | |
| CLASSIFICATION | | | | | | | |
| NONE | | BY | DRAWING NUMBER H-2-120302 | | | | |
| NOT RECD | | | | | | | |
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QUALITY LEVEL II
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| 0 | 04/106/93 | APPROVED FOR CONSTRUCTION | Y/EG | KBC RC | CD | NA/NA |
| | | | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B120302D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001 POUR TURNTABLE ASSEMBLY</p> | | | | |
| REV | DATE | | | | | |
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| SIGNATURE | DATE | | | | | |
| PROJ DIR | | | | | | |
| DA MGR | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | |
| PROJECT MGR | | | | | | |
| SYSTEMS MGR | | | | | | |
| ENGINEERING MGR | | | | | | |
| SUPERVISOR | | | <p>PROJECT TITLE</p> <p>HANFORD WASTE VTRIFICATION PLANT</p> | | | |
| C. DIVONA | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | | | | |
| R. CHOATE | 11-3-92 | | | | | |
| CHECKED | | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | |
| E. GARCIA | 11-2-92 | | B-595 | 8457 | P06B | |
| DRAWN | | | SCALE | BLDG NO. | INDEX NO. | |
| P. NGUYEN | 03/03/92 | | 1/4 | 1 | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | |
| NONE | NOT REQD | H-2-120302 | 4 | 18 | 0 | |

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DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|---|----------------------|-------------------------|----------|-----------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120302E | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 POUR TURNTABLE ASSEMBLY | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | TU-130-001 POUR TURNTABLE ASSEMBLY | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED | | | | | | | |
| E. GARCIA | | 11-2-92 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| DRAWN | | | BLDG NO. 1 | | INDEX NO. | | |
| P. NGUYEN | | 05/21/92 | SCALE 1/8 | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | | SHEET | OF |
| NONE | | NOT RECD | H-2-120302 | | | 5 | 18 |
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DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

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| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120302F | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001 POUR TURNTABLE ASSEMBLY</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| G INDEX | CHECKED | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| | E. GARCIA | 11-2-92 | B-595 | 8457 | P06B | | |
| | DRAWN | | SCALE | BLDG NO. | INDEX NO. | | |
| | P. NGUYEN | 3//92 | SHOWN | 1 | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
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INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|---|----------|---------------------------|---|----------------------|-----------------------------------|----|-------------------------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120302G | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE REV _____ DATE _____ ERO _____ | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10B3B | | | | |
| SIGNATURE _____ DATE _____ PROJ DIR NA QA MGR NA INDEPENDENT SAFETY MGR NA PROJECT MGR NA SYSTEMS MGR NA ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | | FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 POUR TURNTABLE ASSEMBLY | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | | | | | | | |
| CHECKED E. GARCIA <i>EG</i> | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DRAWN P. NGUYEN | | | PROJECT B-595 | | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B |
| CLASSIFICATION NONE | | | SCALE 1/8 | | BLDG NO. 1 | | INDEX NO. |
| BY NOT REQD | | | DRAWING NUMBER H-2-120302 | | SHEET 7 | | OF 18 |
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DATE: 03-16-93


APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|------------------------|---------------------------|---|----------------------------|------------------|----------|----------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120302H | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 POUR TURNTABLE ASSEMBLY | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE | | 11-3-92 | PROJECT TITLE HANFORD WASTE VTRIFICATION PLANT | | | | |
| G INDEX | CHECKED E. GARCIA | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN P. NGUYEN | 05/14/92 | SCALE 1/12 | BLDG NO. 1 | INDEX NO. | | |
| | CLASSIFICATION NONE | BY NOT REQD | DRAWING NUMBER H-2-120302 | | SHEET 8 | OF 18 | REV 0 |

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | | |
|------------------------|----------|---------------------------|--|----------------------|-----------|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120302J | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-B6RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | TU-130-001 POUR TURNTABLE ASSEMBLY | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| E. GARCIA | | 11-2-92 | B-595 | 8457 | P06B | | |
| DRAWN | | | SCALE | BLDG NO. | INDEX NO. | | |
| P. NGUYEN | | 03/03/92 | 1/8 | 1 | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | | |
| NONE | NOT RECD | H-2-120302 | 9 | 18 | 0 | | |

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DISTRIBUTION CODE: 402

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INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II

APR - 8 1993

SAFETY CLASS 3


| | | | | | | | |
|-----------------------------------|----------|---------------------------|--|----------------------|----------------------|----|-----|
| 0 | 04/16/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120302K | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 POUR TURNTABLE ASSEMBLY | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | TU-130-001 POUR TURNTABLE ASSEMBLY | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED | | | | | | | |
| E. GARCIA | | 11-2-92 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| DRAWN | | | SCALE 1/8 | | BLDG NO. 1 | | |
| P. NGUYEN | | 05/22/92 | | | INDEX NO. | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT RECD | H-2-120302 | | 10 | 18 | 0 |

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993


| 0 | 04/16/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|---|----------------------|-----------|----|-----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120302L | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | TU-130-001 LIMIT SWITCH BRACKET WELDMENT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT B-595 | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | FLUOR CONTRACT NO. | | CWBS NO. | | |
| E. GARCIA | | 11-2-92 | 8457 | | P06B | | |
| DRAWN | | | BLDG NO. | | INDEX NO. | | |
| R. MOREL | | 9-2-92 | 1 | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120302 | | 11 | 18 | 0 |

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | | |
|------------------------|----------|---------------------------|--|----------------------|--------------------------------|----|-----|
| 0 | 04/10/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120302M | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | TU-130-001 DRIVE ARM & PLUNGER ASSEMBLIES | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED | | | | | | | |
| E. GARCIA | | 11-2-92 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| DRAWN | | | BLDG NO. 1 | | INDEX NO. | | |
| P. NGUYEN | | 03/04/92 | SCALE SHOWN | | INDEX NO. | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120302 | | 12 | 18 | 0 |

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INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 04/09/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|-----------|---------------------------|---|----------------------|-----------|----|-----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120302N | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 BASE WELDMENT | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT TITLE HANFORD WASTE VTRIFICATION PLANT | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| G INDEX | CHECKED | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| | E. GARCIA | 11-2-92 | B-595 | 8457 | P06B | | |
| | DRAWN | | SCALE | BLDG NO. | INDEX NO. | | |
| | P. NGUYEN | 03/04/92 | 1/4 | 1 | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120302 | | 13 | 18 | 0 |

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QUALITY LEVEL II
SAFETY CLASS 3

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|------------------------|-----------|---------------------------|---|----------------------|-----------|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120302P | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001</p> <p>WHEEL COVER DETAILS</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| INDEX | CHECKED | 3-24-93 | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| | E. GARCIA | 11-2-92 | B-595 | 8457 | P06B | | |
| | DRAWN | | SCALE | BLDG NO. | INDEX NO. | | |
| | P. NGUYEN | 03/04/92 | 1/2 | 1 | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT RECD | H-2-120302 | | 14 | 18 | 0 |

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INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

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|---|--------------------------------|---|--|-----------------------------------|-------------------------|----------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B120302R | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 WHEEL COVER ASSEMBLY | | | |
| PROJ DIR NA | | | | | | |
| QA MGR NA | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | |
| PROJECT MGR NA | | | | | | |
| SYSTEMS MGR NA | | | | | | |
| ENGINEERING MGR NA | | | | | | |
| SUPERVISOR C. DIVONA <i>CAD</i> | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | | 11-3-92 | | | | |
| INDEX | CHECKED E. GARCIA <i>EG</i> | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | |
| | DRAWN P. NGUYEN | 03/04/92 | SCALE 1/2 | BLDG NO. 1 | INDEX NO. | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF |
| NONE | | NOT REQD | H-2-120302 | | 15 | 18 |
| | | | | | 0 | |

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INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | |
|---|----------|--|---|----------------------|----|----------|
| | | | | | | |
| 0 | 01/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA NA |
| | | | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B120302S | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001</p> <p>BEVEL GEAR</p> | | | | |
| REV _____ DATE _____ | | | | | | |
| ERO _____ | | | | | | |
| SIGNATURE | DATE | | | | | |
| PROJ DIR NA | | | | | | |
| QA MGR NA | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | |
| PROJECT MGR NA | | | | | | |
| SYSTEMS MGR NA | | | | | | |
| ENGINEERING MGR NA | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11-3-92 | <p>PROJECT TITLE</p> <p>HANFORD WASTE VITRIFICATION PLANT</p> | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | | 11-3-92 | | | | |
| CHECKED E. GARCIA <i>EG</i> | | 11-2-92 | | | | |
| DRAWN P. NGUYEN | | 03/05/92 | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120302 | 16 | 18 | 0 |

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993


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| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120302T | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE -- AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 ASSEMBLY & DETAILS | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | TU-130-001 ASSEMBLY & DETAILS | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED | | | | | | | |
| E. GARCIA | | 11-2-92 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| DRAWN | | | SCALE SHOWN | | BLDG NO. 1 | | |
| P. NGUYEN | | 05/14/92 | INDEX NO. 17 | | OF 18 | | |
| CLASSIFICATION | | BY | DRAWING NUMBER H-2-120302 | | REV 0 | | |
| NONE | | NOT REOD | | | | | |

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|---|--|--|-------------------|-----------------------------------|----|-------------------------|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120302U | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY | | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | Richland Field Office DE - AC06-86RL10838 | | | | | |
| SIGNATURE _____ DATE _____ | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | TU-130-001 DETAILS | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | | |
| SUPERVISOR C. DIVONA <i>C/D</i> 11-3-92 | | | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> 11-3-92 | | PROJECT B-595 | | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | |
| INDEX | CHECKED E. GARCIA <i>EL</i> 11-2-92 | SCALE 1/1 | | BLDG NO. 1 | | INDEX NO. | |
| | DRAWN D. RUFENACHT 06/12/92 | DRAWING NUMBER H-2-120302 | | SHEET 18 | | OF 18 | |
| | CLASSIFICATION NONE | BY NOT REQD | | | | REV 0 | |

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DISTRIBUTION CODE: 402

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INITIALS: PN


DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

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| | | | | | | | |
|-----------------------------------|----------|---------------------------|---|----------------------|-----------|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | RB | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120303A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 CANISTER GUIDE WELDMENT | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11/3/92 | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11/3/92 | | | | | |
| CHECKED | | | | | | | |
| R. BIANCHI | | 11/2/92 | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| E. GARCIA | | 01/22/92 | B-595 | 8457 | P06B | | |
| DRAWN | | | SCALE | BLDG NO. | INDEX NO. | | |
| E. GARCIA | | 01/22/92 | 1/8 | 1 | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120303 | | 1 | 2 | 0 |

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DISTRIBUTION CODE: 403

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INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | |
|--|--------------|---|---|----------------------|-------------------------|----------------|
| 0 | C4. 66/93 | APPROVED FOR CONSTRUCTION | RB | RC | CD | NA NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B120303B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10B38</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001 CANISTER GUIDE DETAILS</p> | | | | |
| REV _____ DATE _____ | | | | | | |
| ERO _____ | | | | | | |
| SIGNATURE | DATE | | | | | |
| PROJ DIR NA | | | | | | |
| QA MGR NA | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | |
| PROJECT MGR NA | | | | | | |
| SYSTEMS MGR NA | | | | | | |
| ENGINEERING MGR NA | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11/3/92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> | | 11/3/92 | PROJECT B-595 | | | |
| CHECKED R. BIANCHI <i>RB</i> | | 11/2/92 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | |
| DRAWN E. YBARRA | | 10/20/92 | BLDG NO. 1 | | INDEX NO. | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120303 | | SHEET 2 | OF 2 |
| | | | | | REV 0 | |

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INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

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|-----------------------------------|----------|---|--|----------------------|-------|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120304A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 CART, SPIDER DRIVE SUPPORT ASSEMBLY | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT B-595 | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | FLUOR CONTRACT NO. 8457 | | | | |
| C. DIVONA <i>CJD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | CWBS NO. P06B | | | | |
| R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| CHECKED | | | BLDG NO. 1 | | | | |
| E. GARCIA <i>EG</i> | | 11-2-92 | | | | | |
| DRAWN | | | INDEX NO. 0 | | | | |
| R. MOREL | | 02/28/92 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REOD | H-2-120304 | | 1 | 2 | 0 |


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APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|----------------------------|----------|---|-------------------|----|----------------------|----|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | | B120304B | CADCODE | | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR | | TU-130-001 CART, SPIDER DRIVE SUPPORT DETAILS | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | HANFORD WASTE VITRIFICATION PLANT | | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | PROJECT B-595 FLUOR CONTRACT NO. 8457 CWBS NO. P06B | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | SCALE SHOWN BLDG NO. 1 INDEX NO. | | | | | |
| C. DIVONA <i>CD</i> | | | | | | | |
| 11-3-92 | | | | | | | |
| DESIGN ENGINEER | | DRAWING NUMBER H-2-120304 | | | | | |
| R. CHOATE <i>RSC</i> | | | | | | | |
| 11-3-92 | | | | | | | |
| CHECKED | | SHEET 2 OF 2 REV 0 | | | | | |
| E. GARCIA <i>gl</i> | | | | | | | |
| 11-2-92 | | | | | | | |
| DRAWN | | CLASSIFICATION NONE | | | | | |
| R. MOREL | | | | | | | |
| 3-19-92 | | | | | | | |
| BY | | NOT REQD | | | | | |
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INITIALS: PN
DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | REG | RC | CD | NA NA |
|------------------------|----------|--|---|----------------------|---|------------|
| | | | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B120305A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | <p align="center">U.S. DEPARTMENT OF ENERGY</p> <p align="center">Richland Field Office DE - AC06-B6RL10838</p> <p align="center">  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION </p> <p align="center"> TU-130-001 POUR TURNTABLE CART DRIVE PARTS LIST & NOTES </p> | | | | |
| REV | DATE | | | | | |
| ERO | | | | | | |
| SIGNATURE | DATE | | | | | |
| PROJ DIR | | | | | | |
| QA MGR | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | |
| PROJECT MGR | | | | | | |
| SYSTEMS MGR | | | | | | |
| ENGINEERING MGR | | | | | | |
| SUPERVISOR | | | <p align="center">PROJECT TITLE</p> <p align="center">HANFORD WASTE VITRIFICATION PLANT</p> | | | |
| C. DIVONA | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | <p align="center">PROJECT</p> <p align="center">B-595</p> | | | |
| R. CHOATE | 11-3-92 | | | | | |
| CHECKED | | | <p align="center">FLUOR CONTRACT NO.</p> <p align="center">8457</p> | | <p align="center">CWBS NO.</p> <p align="center">P06B</p> | |
| E. GARCIA | 11-2-92 | | | | | |
| DRAWN | | | <p align="center">BLDG NO.</p> <p align="center">1</p> | | <p align="center">INDEX NO.</p> | |
| R. MOREL | 03/03/92 | | | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | NOT REQD | H-2-120305 | | 1 | 2 | 0 |

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DISTRIBUTION CODE: 403

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INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993


| | | | | | | | |
|------------------------|---------------------|---------------------------|---|----------------------|--------------------|-----------|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120305B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p align="center">U.S. DEPARTMENT OF ENERGY</p> <p align="center">Richland Field Office DE - AC06-86RL10838</p> <p align="center"> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p align="center">TU-130-001 CART DRIVE SUPPORT DETAILS</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA <i>C/D</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| INDEX | CHECKED | <i>RBC</i> | 3-24-93 | PROJECT TITLE | | | |
| | E. GARCIA <i>EL</i> | 11-2-92 | HANFORD WASTE VITRIFICATION PLANT | | | | |
| | DRAWN | | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | |
| | R. MOREL | 3-27-92 | | B-595 | 8457 | P06B | |
| | CLASSIFICATION | BY | DRAWING NUMBER | SCALE | BLDG NO. | INDEX NO. | |
| | NONE | NOT REQD | H-2-120305 | SHOWN | 1 | | |
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|-----------------------------------|----------|---|---|----------------------|----|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120306A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 SPIDER DRIVE MOTOR PARTS LIST & NOTES | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT B-595 | | | | |
| C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | FLUOR CONTRACT NO. 8457 | | | | |
| R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| CHECKED | | | CWBS NO. P06B | | | | |
| E. GARCIA <i>EL</i> | | 11-2-92 | | | | | |
| DRAWN | | | BLDG NO. 1 | | | | |
| S. HORVAT | | 5-6-92 | | | | | |
| CLASSIFICATION | | BY | INDEX NO. 0 | | | | |
| NONE | | NOT RECD | | | | | |
| DRAWING NUMBER | | H-2-120306 | | | | | |
| SHEET | | 1 | | | | | |
| OF | | 14 | | | | | |
| REV | | 0 | | | | | |

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DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

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|-----------------------------------|----------|---------------------------|---|----------------------|--------------------------------|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120306B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 SPIDER DRIVE MOTOR ASSEMBLY | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | TU-130-001 SPIDER DRIVE MOTOR ASSEMBLY | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA <i>CD</i> | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE <i>RC</i> | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED | | | | | | | |
| E. GARCIA <i>EG</i> | | 11-2-92 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| DRAWN | | | BLDG NO. 1 | | INDEX NO. | | |
| S. HORVAT | | 11-19-91 | SCALE 1/4 | | REV 0 | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT RECD | H-2-120306 | | 2 | 14 | 0 |

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INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|------------------------|----------|--|--|----------------------|--------------------|-----------|-----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120306C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY | | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERD _____ | | Richland Field Office DE - AC06-86RL10B38 | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | TU-130-001 SPIDER DRIVE MOTOR ASSEMBLY | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | PROJECT | | FLUOR CONTRACT NO. | CWBS NO. | |
| E. GARCIA | | 11-2-92 | B-595 | | 8457 | P06B | |
| DRAWN | | | SCALE | | BLDG NO. | INDEX NO. | |
| S. HORVAT | | 11-18-92 | 1/4 | | 1 | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | | SHEET | OF |
| NONE | | NOT REQD | H-2-120306 | | | 3 | 14 |
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INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993


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|-----------------------------------|----------|---------------------------|--|----------------------|--------------------------------|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120306D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 MOUNTING PLATE | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT B-595 | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| E. GARCIA | | 11-2-92 | SCALE SHOWN | | BLDG NO. 1 | | |
| DRAWN | | | DRAWING NUMBER H-2-120306 | | INDEX NO. 0 | | |
| S. HORVAT | | 11/18/91 | | | | | |
| CLASSIFICATION | | BY | SHEET | | OF | | REV |
| NONE | | NOT REQD | 4 | | 14 | | 0 |

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|------------------------|----------|---------------------------|--|----------------------|--------------------|----|-----------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120306E | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-B6RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 LIMIT SWITCH MOUNTING ASSEMBLY | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA <i>CD</i> | | 11-3-92 | PROJECT TITLE | | | | |
| DESIGN ENGINEER | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| R. CHOATE <i>KBC</i> | | 11-3-92 | PROJECT | | FLUOR CONTRACT NO. | | CWBS NO. |
| E. GARCIA <i>91</i> | | 11-2-92 | B-595 | | 8457 | | P06B |
| DRAWN | | | SCALE | | BLDG NO. | | INDEX NO. |
| S. HORVAT | | 11/18/91 | 1/4 | | 1 | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REOD | H-2-120306 | | 5 | 14 | 0 |

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DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993


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|-----------------------------------|----------|---------------------------|---|----------------------|----|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | REG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120306F | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 SPIDER DRIVE MOTOR FRAME WELDMENT | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA <i>JD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE <i>RLC</i> | | 11-3-92 | PROJECT B-595 FLUOR CONTRACT NO. 8457 CWBS NO. P06B SCALE 1/4 BLDG NO. 1 INDEX NO. | | | | |
| CHECKED | | | | | | | |
| E. GARCIA <i>EL</i> | | 11-2-92 | SHEET 6 OF 14 REV 0 | | | | |
| DRAWN | | | | | | | |
| S. HORVAT | | 11/19/91 | DRAWING NUMBER H-2-120306 | | | | |
| CLASSIFICATION | | | | | | | |
| NONE | | BY NOT REQD | | | | | |

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

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| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|------------------------|----------|--|---|----------------------|----|----|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120306G | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY | | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | Richland Field Office DE - AC06-86RL10838 | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 SPIDER DRIVE MOTOR FRAME WELDMENT | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT B-595 | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | FLUOR CONTRACT NO. 8457 | | | | |
| C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | CWBS NO. P06B | | | | |
| R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| CHECKED | | | SCALE 1/4 | | | | |
| E. GARCIA <i>EL</i> | | 11-2-92 | | | | | |
| DRAWN | | | BLDG NO. 1 | | | | |
| S. HORVAT | | 11/21/91 | | | | | |
| CLASSIFICATION | | BY | INDEX NO. 0 | | | | |
| NONE | | NOT REQD | | | | | |
| | | | DRAWING NUMBER H-2-120306 | | | | |
| | | | SHEET 7 | | | | |
| | | | OF 14 | | | | |
| | | | REV 0 | | | | |

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DISTRIBUTION CODE: 403

M31

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INITIALS: PN


DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

B

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| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA NA |
|------------------------|---------------------|--|--------------------|----------------------|----------|-----------|
| | | | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B120306H | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | <p align="center">U.S. DEPARTMENT OF ENERGY</p> <p align="center">Richland Field Office DE - AC06-B6RL10B38</p> <p align="center"> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p align="center">TU-130-001 SPIDER DRIVE MOTOR FRAME WELDMENT</p> | | | | |
| REV | DATE | | | | | |
| ERO | | | | | | |
| SIGNATURE | DATE | | | | | |
| PROJ DIR | | | | | | |
| QA MGR | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | |
| PROJECT MGR | | | | | | |
| SYSTEMS MGR | | | | | | |
| ENGINEERING MGR | | | | | | |
| SUPERVISOR | | <p align="center">PROJECT TITLE HANFORD WASTE VTRIFICATION PLANT</p> | | | | |
| C. DIVONA <i>CD</i> | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | | | | |
| R. CHOATE <i>RC</i> | 11-3-92 | | | | | |
| INDEX | CHECKED | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| | E. GARCIA <i>EG</i> | B-595 | 8457 | P06B | | |
| | DRAWN | SCALE | BLDG NO. | INDEX NO. | | |
| | S. HORVAT | 1/4 | 1 | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF |
| NONE | | NOT REQD | H-2-120306 | | 8 | 14 |
| | | | | | | 0 |

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DISTRIBUTION CODE: 403

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INITIALS: PN

DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|--|----------------------|-------------|----|-----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120306J | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 SPIDER DRIVE MOTOR DETAILS | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE | | | | |
| C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | 8457 | | | | |
| R. CHOATE <i>RC</i> | | 11-3-92 | | | | | |
| CHECKED | | | FLUOR CONTRACT NO. | | CWBS NO. | | |
| E. GARCIA <i>EG</i> | | 11-2-92 | B-595 | | P06B | | |
| DRAWN | | | BLDG NO. | | INDEX NO. | | |
| S. HORVAT | | 10-6-91 | 1 | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120306 | | 9 | 14 | 0 |

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INITIALS: PN
DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993


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|-----------------------------------|----------|---------------------------|---|----------------------|----|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120306K | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 SPIDER DRIVE MOTOR DETAILS | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT B-595 | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | FLUOR CONTRACT NO. 8457 | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | CWBS NO. P06B | | | | |
| E. GARCIA | | 11-2-92 | | | | | |
| DRAWN | | | SCALE SHOWN | | | | |
| S. HORVAT | | 10/10/91 | | | | | |
| CLASSIFICATION | | | BLDG NO. 1 | | | | |
| NONE | | | | | | | |
| BY | | | INDEX NO. 0 | | | | |
| NOT REQD | | | | | | | |
| DRAWING NUMBER | | | H-2-120306 | | | | |
| SHEET | | | 10 | | | | |
| OF | | | 14 | | | | |
| REV | | | 0 | | | | |

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|--|-----------------------|-------------------------------------|---|-----------------------------------|-------------------------|-----------------|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120306L | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE REV _____ DATE _____ ERO _____ | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | TU-130-001 SPIDER DRIVE MOTOR DETAILS | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA | 11-3-92 | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE | 11-3-92 | | | | | | |
| CHECKED E. GARCIA | 11-2-92 | | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| DRAWN S. HORVAT | 10-15-91 | | SCALE 1/2 | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | BY NOT REOD | DRAWING NUMBER H-2-120306 | | SHEET 11 | OF 14 | REV 0 | |

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INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | | |
|--------------------------------------|----------|---|---------|----------------------|----|-------------|----------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120306M | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR NA | | TU-130-001 SPIDER DRIVE MOTOR DETAILS | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | HANFORD WASTE VITRIFICATION PLANT | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | PROJECT B-595 FLUOR CONTRACT NO. 8457 CWBS NO. P06B | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA 11-3-92 | | SCALE SHOWN BLDG NO. 1 INDEX NO. | | | | | |
| DESIGN ENGINEER R. CHOATE 11-3-92 | | | | | | | |
| CHECKED E. GARCIA 11-2-92 | | CLASSIFICATION NONE | | | | | |
| DRAWN S. HORVAT 10/25/91 | | | | | | | |
| BY NOT REQD | | DRAWING NUMBER H-2-120306 | | | | SHEET 12 | OF 14 |
| | | | | | | REV 0 | |

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INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|--|----------------------|-------------------------|-----------|----------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120306N | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 PILLOW BLOCK SUPPORT | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | TU-130-001 PILLOW BLOCK SUPPORT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED | | | | | | | |
| E. GARCIA | | 11-2-92 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| DRAWN | | | BLDG NO. 1 | | INDEX NO. | | |
| S. HORVAT | | 08/10/92 | SCALE 1/1 | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT RECD | H-2-120306 | | 13 | 14 | 0 |

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QUALITY LEVEL II
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| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120306P | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-B6RL10B38 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | TU-130-001 SHAFT EXTENTION ASSEMBLY | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| R. CHOATE <i>RC</i> | | 11-3-92 | | | | | |
| CHECKED | | | | | | | |
| E. GARCIA <i>EG</i> | | 11-2-92 | | | | | |
| DRAWN | | | PROJECT | | FLUOR CONTRACT NO. | | CWBS NO. |
| S. HORVAT | | 10/30/91 | B-595 | | 8457 | | P06B |
| CLASSIFICATION | | BY | SCALE | | BLDG NO. | | INDEX NO. |
| NONE | | NOT REOD | SHOWN | | 1 | | |
| DRAWING NUMBER | | SHEET | | OF | | REV | |
| H-2-120306 | | 14 | | 14 | | 0 | |

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INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

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|--|--|---------------------------|---|----------------------|-----------------------------------|----------------|-------------------------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120307A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE REV _____ DATE _____ ERO _____ | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | TU-130-001 OUTER RAIL PARTS LIST AND NOTES | | | | |
| SUPERVISOR C. DIVONA <i>CPD</i> 11-3-92 | | | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RSC</i> 11-3-92 | | | | | | | |
| INDEX | CHECKED E. GARCIA <i>EG</i> 11-2-92 | | PROJECT B-595 | | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B |
| | DRAWN BOB HUSTON 7-30-92 | | SCALE SHOWN | | BLDG NO. 1 | | INDEX NO. |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120307 | | SHEET 1 | OF 3 | REV 0 |

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DISTRIBUTION CODE: 403

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INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|----------|---|---|----------------------|----------------------|----|-----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120307C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 INNER RAILS | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | HANFORD WASTE VTRIFICATION PLANT | | | | |
| C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE <i>RC</i> | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED | | | | | | | |
| E. GARCIA <i>EG</i> | | 11-2-92 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| DRAWN | | | SCALE SHOWN | | BLDG NO. 1 | | |
| P. ASHLEY | | 12-06-91 | | | INDEX NO. | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120307 | | 3 | 3 | 0 |


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G INDEX

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | | |
|-----------------------------------|------------------------------|---------------------------|---|----------------------|-------------|----------|----------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120307B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 OUTER RAILS | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA <i>(signature)</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| R. CHOATE <i>(signature)</i> | | 11-3-92 | | | | | |
| G INDEX | CHECKED | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| | E. GARCIA <i>(signature)</i> | 11-2-92 | B-595 | 8457 | P06B | | |
| | DRAWN | | SCALE | BLDG NO. | INDEX NO. | | |
| | BOB HUSTON | 7-31-91 | 1/4 | 1 | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT RECD | H-2-120307 | | 2 | 3 | 0 |

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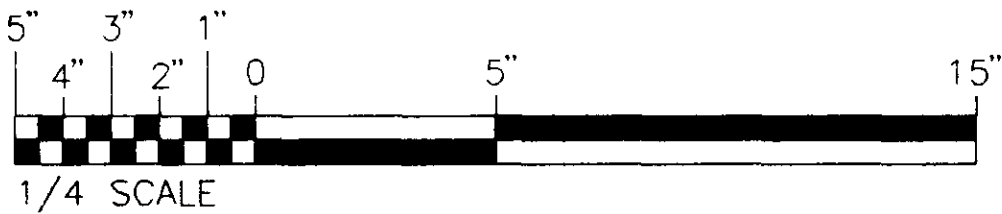
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INITIALS: PN

DATE: 03-16-93



QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993


| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-------------------------------------|----------|--|-------------------|----------------------|-------|----|-----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120308A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001 CART DR MOT ASSY PARTS LIST AND NOTES</p> | | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA (P.D.) | 11-3-92 | <p>PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT</p> | | | | | |
| DESIGN ENGINEER R. CHOATE (P.D.) | 11-3-92 | | | | | | |
| CHECKED E. GARCIA (P.D.) | 11-2-92 | | | | | | |
| DRAWN S.L. REGACHO | 09-23-91 | | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT RECD | H-2-120308 | | 1 | 4 | 0 |

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993


| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|------------------------|----------|---------------------------|--|----------------------|----|-------|-----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120308B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERD _____ | | | Richland Field Office DE - AC06-86RL10B38 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | TU-130-001 CART DRIVE MOTOR WELDMENT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA <i>C/D</i> | | 11-3-92 | B-595 | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE <i>R/C</i> | | 11-3-92 | 8457 | | | | |
| CHECKED | | | | | | | |
| E. GARCIA <i>E/G</i> | | 11-2-92 | P06B | | | | |
| DRAWN | | | | | | | |
| S.L. REGACHO | | 09-23-91 | 1 | | | | |
| CLASSIFICATION | | | | | | | |
| NONE | | NOT RECD | DRAWING NUMBER | | | SHEET | OF |
| | | | H-2-120308 | | | 2 | 4 |
| | | | | | | | REV |
| | | | | | | | 0 |

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

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|------------------------|----------|---|--------------------|----------------------|-----|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120308C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001 CART DRIVE MOTOR SPLASH GUARD ASSY</p> | | | | | |
| REV | DATE | | | | | | |
| ERO | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | <p>PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT</p> | | | | | |
| C. DIVONA | 11-3-92 | | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | 11-3-92 | | | | | | |
| CHECKED | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | | |
| E. GARCIA | 11-2-92 | B-595 | 8457 | P06B | | | |
| DRAWN | | SCALE | BLDG NO. | INDEX NO. | | | |
| S.L. REGACHO | 04-10-92 | 1/2 | 1 | | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | | |
| NONE | NOT REQD | H-2-120308 | 3 | 4 | 0 | | |

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DATE: 03-16-93

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APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3


| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|--|--|-----------------------------------|---|-------------------------|----------|----------|----------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120308D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001 CART DRIVE MOTOR DETAILS</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> 11-3-92 | | PROJECT TITLE | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> 11-3-92 | | HANFORD WASTE VITRIFICATION PLANT | | | | | |
| G INDEX | CHECKED E. GARCIA <i>EG</i> 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | | |
| | DRAWN S.L. REGACHO 09-23-91 | SCALE 1/4 | BLDG NO. 1 | INDEX NO. | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120308 | | 4 | 4 | 0 |

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993


| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|---------------------|---------------------------|--|----------------------|----|-----|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120309A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 CANISTER DOLLY ASSEMBLY PARTS LIST & NOTES | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT B-595 | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | FLUOR CONTRACT NO. 8457 | | | | |
| C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | CWBS NO. P06B | | | | |
| R. CHOATE <i>RC</i> | | 11-3-92 | | | | | |
| G INDEX | CHECKED | | SCALE 1/1 | | | | |
| | E. GARCIA <i>EG</i> | 11-2-92 | | | | | |
| DRAWN | | | BLDG NO. 1 | | | | |
| D. SMITH | | 02/26/92 | | | | | |
| CLASSIFICATION | | BY | INDEX NO. | | | | |
| NONE | | NOT RECD | | | | | |
| DRAWING NUMBER | | SHEET | | | OF | REV | |
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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993


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| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120309B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY | | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | Richland Field Office DE - AC06-86RL10838 | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | TU-130-001 CANISTER DOLLY ASSEMBLY | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE | | | | |
| C. DIVONA <i>CW</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| CHECKED | E. GARCIA <i>8-2</i> | 11-2-92 | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| | | | B-595 | 8457 | P06B | | |
| DRAWN | D. SMITH | 02/26/92 | SCALE | BLDG NO. | INDEX NO. | | |
| | | | 1/4 | 1 | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | | |
| NONE | NOT REQD | H-2-120309 | 2 | 9 | 0 | | |

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

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|-------------------------------|----------|---------------------------|--|-----------------------------------|-------------------------|----------------|-----------------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120309C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | TU-130-001 CANISTER DOLLY TRUNNION LIFTING WELDMENT & DETS | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE | | 11-3-92 | | | | | |
| CHECKED E. GARCIA | | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| DRAWN D. SMITH | | 03/05/92 | SCALE 1/2 | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT RECD | DRAWING NUMBER H-2-120309 | | SHEET 3 | OF 9 | REV 0 |

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| 80 | | |

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

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|--|--|---------------------------|---|-------------------------|-----------------------------------|-------------------------|-----------------|
| 0 | 04/66/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120309D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE REV _____ DATE _____ ERO _____ | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | TU-130-001 CANISTER DOLLY WELDMENT | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CW</i> 11-3-92 | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> 11-3-92 | | | | | | | |
| DRAWING INDEX | CHECKED E. GARCIA <i>EG</i> 11-2-92 | | | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | |
| | DRAWN D. SMITH 02/26/92 | | | SCALE 1/2 | BLDG NO. 1 | INDEX NO. | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120309 | | SHEET 4 | OF 9 | REV 0 |

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INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993


| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|--|----------------------|-----------|----|------------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120309E | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 CANISTER DOLLY TOP PLATE DETAIL | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT B-595 | | | | |
| C. DIVONA <i>CJD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | FLUOR CONTRACT NO. 8457 | | | | |
| R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| CHECKED | | | CWBS NO. P06B | | | | |
| E. GARCIA <i>Rec</i> | | 11-2-92 | | | | | |
| DRAWN | | | BLDG NO. 1 | | | | |
| D. SMITH | | 02/26/92 | | | | | |
| CLASSIFICATION | | | INDEX NO. | | | | |
| NONE | | | | | | | |
| BY | | | DRAWING NUMBER H-2-120309 | | | | |
| NOT REQD | | | | | | | |
| | | | SHEET | | OF | | REV |
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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

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| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120309F | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-B6RL10B38 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | TU-130-001 CANISTER DOLLY BASE PLATE DETAIL | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | HANFORD WASTE VTRIFICATION PLANT | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED E. GARCIA <i>92</i> | | 11-2-92 | | | | | |
| DRAWN D. SMITH | | 03/11/92 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| CLASSIFICATION | | BY | SCALE 1/2 | | BLDG NO. 1 | | |
| NONE | | NOT RECD | DRAWING NUMBER H-2-120309 | | INDEX NO. | | |
| | | | SHEET 6 | | OF 9 | | |
| | | | REV 0 | | | | |

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INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

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|--|--------------------------------|---------------------------|--|-----------------------------------|-------------------------|----------------|-----------------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120309G | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10B38 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11-3-92 | TU-130-001 CANISTER DOLLY BODY DETAILS | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> | | 11-3-92 | | | | | |
| ING INDEX | CHECKED E. GARCIA <i>EG</i> | 11-2-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| | DRAWN D. SMITH | 05/18/92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | | | SCALE SHOWN | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120309 | | SHEET 7 | OF 9 | REV 0 |

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INITIALS: PN
DATE: 03-16-93

DISTRIBUTION CODE: 403


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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

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|--|-----------------|---------------------------|--|----------------------|----------|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120309H | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE | Richland Field Office DE - ACD6-B6RL10838 | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | TU-130-001 CANISTER DOLLY WHEEL MOUNTING PLATE DETAIL | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> | | 11-3-92 | PROJECT TITLE HANFORD WASTE VTRIFICATION PLANT | | | | |
| CHECKED E. GARCIA <i>EG</i> | 11-2-92 | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | | |
| | | B-595 | 8457 | P06B | | | |
| DRAWN D. SMITH | 02/27/92 | SCALE | BLDG NO. | INDEX NO. | | | |
| | | 1/2 | 1 | | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | | |
| NONE | NOT REQD | H-2-120309 | 8 | 9 | 0 | | |

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| 77 78 79 80 | | | |

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INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993


| | | | | | | | |
|------------------------|----------|---------------------------|--|----------------------|------|----|-------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120309J | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | TU-130-001 CANISTER DOLLY COVER DETAIL | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA <i>C/D</i> | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE <i>RBC</i> | | 11-3-92 | PROJECT B-595 FLUOR CONTRACT NO. 8457 CWBS NO. P06B | | | | |
| CHECKED | | | | | | | |
| E. GARCIA <i>JA</i> | | 11-2-92 | SCALE 1/1 BLDG NO. 1 INDEX NO. | | | | |
| DRAWN | | | | | | | |
| D. SMITH | | 02/27/92 | DRAWING NUMBER H-2-120309 | | | | |
| CLASSIFICATION | | | | | | | |
| NONE | | BY NOT RECD | SHEET 9 | | OF 9 | | REV 0 |

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 04/09/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|------------------------|-----------------------|---------------------------|---|----------------------|------------|-----------|------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120310A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001 LIFTING TRUNNION WELDMENT PARTS LIST & NOTES</p> | | | | |
| REV | DATE | | | | | | |
| ERO | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR | NA | | | | | | |
| QA MGR | NA | | | | | | |
| INDEPENDENT SAFETY MGR | NA | | | | | | |
| PROJECT MGR | NA | | | | | | |
| SYSTEMS MGR | NA | | | | | | |
| ENGINEERING MGR | NA | | | | | | |
| SUPERVISOR | C. DIVONA CJD 11-3-92 | | <p>PROJECT TITLE</p> <p>HANFORD WASTE VITRIFICATION PLANT</p> | | | | |
| DESIGN ENGINEER | R. CHOATE RBC 11-3-92 | | | | | | |
| CHECKED | E. GARCIA RBC 11-2-92 | PROJECT | B-595 | FLUOR CONTRACT NO. | 8457 | CWBS NO. | P06B |
| DRAWN | P. JUAREZ 1/17/92 | SCALE | 1/8 | BLDG NO. | 1 | INDEX NO. | |
| CLASSIFICATION | NONE | BY | NOT REQD | DRAWING NUMBER | H-2-120310 | | |
| | | | | SHEET | 1 | OF | 2 |
| | | | | REV | 0 | | |

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DISTRIBUTION CODE: 403

M55

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DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | | |
|---|----------|---------------------------|---|----------------------|----|-----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120310B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE -- AC06-B6RL10B38</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001 LIFTING TRUNNION WELDMENT DETAILS</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CJD</i> | | 11-3-92 | <p>PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT</p> | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| CHECKED E. GARCIA <i>EL</i> | | 11-2-92 | | | | | |
| DRAWN P. JUAREZ | | 1/31/92 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | SHEET | OF | REV | |
| NONE | | NOT REQD | H-2-120310 | 2 | 2 | 0 | |

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INDEX

DISTRIBUTION CODE: 403

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INITIALS: PN

DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA | | | | | | | | | | |
|-----------------------------------|----------|---------------------------|---|----------------------|----|----|----|--|--|--|--|--|--------------------------------|--|--|--|--|
| | | | NA | NA | NA | NA | NA | | | | | | | | | | |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | | | | | | | | | | | |
| CADFILE | B120311A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | | | | | | | | | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE -- AC06-86RL10838 | | | | | | | | | | | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | | | | | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 CART SUPPORT ASSEMBLY PARTS LIST & NOTES | | | | | | | | | | | | | | |
| PROJ DIR | | | | | | | | | | | | | | | | | |
| NA | | | | | | | | | | | | | | | | | |
| QA MGR | | | | | | | | | | | | | | | | | |
| NA | | | | | | | | | | | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | | | | | | | | | | | |
| NA | | | | | | | | | | | | | | | | | |
| PROJECT MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | | | | | | | | | | | |
| NA | | | | | | | | | | | | | | | | | |
| SYSTEMS MGR | | | | | | | | | | | | | | | | | |
| NA | | | | | | | | | | | | | | | | | |
| ENGINEERING MGR | | | | | | | | | | | | | | | | | |
| NA | | | | | | | | | | | | | | | | | |
| SUPERVISOR | | | | | | | | | | | | | | | | | |
| C. DIVONA <i>CP</i> | | 11-3-92 | PROJECT B-595 | | | | | | | | | | | | | | |
| DESIGN ENGINEER | | | | | | | | FLUOR CONTRACT NO. 8457 | | | | | | | | | |
| R. CHOATE <i>KBC</i> | | 11-3-92 | | | | | | | | | | | CWBS NO. P06B | | | | |
| CHECKED | | | | | | | | | | | | | | | | | |
| E. GARCIA <i>gt</i> | | 11-2-92 | SCALE 1/4 | | | | | | | | | | | | | | |
| DRAWN | | | | | | | | BLDG NO. 1 | | | | | | | | | |
| R. MOREL | | 3-27-92 | | | | | | | | | | | INDEX NO. | | | | |
| | | | | | | | | | | | | | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER H-2-1.20311 | | | | | | | | | | | | | | |
| NONE | | NOT REQD | | | | | | SHEET 1 | | | | | | | | | |
| | | | | | | | | | | | | | OF 2 | | | | |
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DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 04/66/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA |
|------------------------|----------|--|--------------------|----------------------|-----|----|
| | | | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B120311B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV | DATE | | | | | |
| ERO | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 CART SUPPORT DETAILS | | | | |
| SIGNATURE | DATE | | | | | |
| PROJ DIR | | | | | | |
| QA MGR | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | |
| PROJECT MGR | | | | | | |
| SYSTEMS MGR | | | | | | |
| ENGINEERING MGR | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR | | | | | | |
| DESIGN ENGINEER | | | | | | |
| C. DIVONA | 11-3-92 | PROJECT TITLE | | | | |
| R. CHOATE | 11-3-92 | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| E. GARCIA | 11-2-92 | B-595 | 8457 | P06B | | |
| R. MOREL | 4-2-92 | SCALE | BLDG NO. | INDEX NO. | | |
| | | SHOWN | 1 | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | |
| NONE | NOT REQD | H-2-120311 | 2 | 2 | 0 | |

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INITIALS: PN

DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993


| | | | | | | | |
|------------------------|----------|---------------------------|--|----------------------|-------|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120312A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | TU-130-001 CART DRIVE PARTS LIST & NOTES | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT B-595 | | | | |
| C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | FLUOR CONTRACT NO. 8457 | | | | |
| R. CHOATE <i>RC</i> | | 11-3-92 | | | | | |
| CHECKED | | | CWBS NO. P06B | | | | |
| E. GARCIA <i>EG</i> | | 11-2-92 | | | | | |
| DRAWN | | | BLDG NO. 1 | | | | |
| D. RUFENACHT | | 05/04/92 | | | | | |
| CLASSIFICATION | | BY | INDEX NO. 0 | | | | |
| NONE | | NOT REQD | | | | | |
| DRAWING NUMBER | | H-2-120312 | | | SHEET | | OF |
| | | | | | 1 | | 11 |
| | | | | | | | 0 |

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993


| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|---|----------------------|-------------------|----|-----------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120312B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 CART DRIVE ASSEMBLY | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA <i>C/D</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE <i>RBC</i> | | 11-3-92 | PROJECT B-595 FLUOR CONTRACT NO. 8457 CWBS NO. P06B | | | | |
| CHECKED | | | | | | | |
| E. GARCIA <i>EG</i> | | 11-2-92 | SCALE 1/8 | | BLDG NO. 1 | | INDEX NO. |
| DRAWN | | | SHEET 2 OF 11 REV 0 | | | | |
| D. RUFENACHT | | 05/04/92 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | | | |
| NONE | | NOT RECD | H-2-120312 | | | | |

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993


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|-----------------------------------|----------|---------------------------|--|----------------------|--------------------|----|-----------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120312C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 SPLASH GUARD WHEEL DRIVE LEFT SIDE ASSEMBLY | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR | | | | | | | |
| DESIGN ENGINEER | | | | | | | |
| C. DIVONA | | 11-3-92 | PROJECT TITLE | | | | |
| R. CHOATE | | 11-3-92 | PROJECT | | | | |
| E. GARCIA | | 11-2-92 | B-595 | | FLUOR CONTRACT NO. | | CWBS NO. |
| D. RUFENACHT | | 05/04/92 | 1/2 | | BLDG NO. | | INDEX NO. |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | | OF |
| NONE | | NOT REQD | H-2-120312 | | 3 | | 11 |
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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993


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|---|--------------------------------|---------------------------|--|-----------------------------------|-------------------------|-----------------|-----------------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120312D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | TU-130-001 SPLASH GUARD WHEEL DRIVE RIGHT SIDE ASSEMBLY | | | | |
| SUPERVISOR C. DIVONA <i>Cps</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NG INDEX | CHECKED E. GARCIA <i>gt</i> | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN D. RUFENACHT | 05/04/92 | SCALE 1/2 | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT RECD | DRAWING NUMBER H-2-120312 | | SHEET 4 | OF 11 | REV 0 |

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

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|-----------------------------------|----------|---------------------------|---|----------------------|-----------|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120312E | | CADCODE | 2B:IBM:ACD2:12:C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 CLUTCH COUPLING COVER & SUPPORT ASSEMBLY | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT B-595 | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | FLUOR CONTRACT NO. | | CWBS NO. | | |
| E. GARCIA | | 11-2-92 | 8457 | | P06B | | |
| DRAWN | | | BLDG NO. | | INDEX NO. | | |
| D. RUFENACHT | | 05/04/92 | 1 | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120312 | | 5 | 11 | 0 |

QUALITY LEVEL II
SAFETY CLASS 3

APR - 9 1993


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|------------------------|----------|---------------------------|---|----------------------|-----------|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120312F | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001 SPLASH GUARD WHEEL DRIVE LEFT SIDE DETAILS</p> | | | | |
| REV | DATE | | | | | | |
| ERO | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | <p>PROJECT TITLE</p> <p>HANFORD WASTE VITRIFICATION PLANT</p> | | | | |
| C. DIVONA | 11-3-92 | | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | 11-3-92 | | | | | | |
| CHECKED | | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| E. GARCIA | 11-2-92 | | B-595 | 8457 | P06B | | |
| DRAWN | | | SCALE | BLDG NO. | INDEX NO. | | |
| D. RUFENACHT | 05/04/92 | | 1/2 | 1 | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | | |
| NONE | NOT RECD | H-2-120312 | 6 | 11 | 0 | | |

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QUALITY LEVEL II
SAFETY CLASS 3

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|---|--|---------------------------|---|-------------------------------------|-----------------|-----------------------------------|-----------------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120312G | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | TU-130-001 SPLASH GUARD WHEEL DRIVE RIGHT SIDE DETAILS | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>C/D</i> 11-3-92 | | | | | | | |
| DESIGN ENGINEER R. CHOATE <i>KBC</i> 11-3-92 | | | | | | | |
| NG INDEX | CHECKED E. GARCIA <i>EG</i> 11-2-92 | | | PROJECT B-595 | | FLUOR CONTRACT NO. 8457 | |
| | DRAWN D. RUFENACHT 05/04/92 | | | SCALE 1/2 | | CWBS NO. P06B | |
| | CLASSIFICATION NONE | | | BLDG NO. 1 | | INDEX NO. | |
| | BY NOT REQD | | | DRAWING NUMBER H-2-120312 | | SHEET 7 | |
| | | | | | OF 11 | | REV 0 |

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

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|---|--|------------------------------|---|----------------------|----------------------------|----|------------------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120312H | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE REV _____ DATE _____ ERO _____ | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE _____ DATE _____ PROJ DIR NA QA MGR NA INDEPENDENT SAFETY MGR NA PROJECT MGR NA SYSTEMS MGR NA ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>[Signature]</i> 11-3-92 | | | FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 CLUTCH COUPLING COVER DETAILS | | | | |
| DESIGN ENGINEER R. CHOATE <i>[Signature]</i> 11-3-92 | | | | | | | |
| CHECKED E. GARCIA <i>[Signature]</i> <i>[Signature]</i> 11-2-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | PROJECT B-595 | | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B |
| | DRAWN D. RUFENACHT 05/06/92 | | SCALE 1/2 | | BLDG NO. 1 | | INDEX NO. |
| CLASSIFICATION NONE | BY NOT REOD | DRAWING NUMBER H-2-120312 | SHEET 8 | OF 11 | REV 0 | | |

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DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | | |
|---|----------------|--|--|----------------------|------------|-----------|----------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120312J | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10B38</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001 CLUTCH COUPLING DETAILS</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CW</i> | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | 11-3-92 | PROJECT B-595 | | | | | |
| CHECKED E. GARCIA <i>EL</i> | 11-2-92 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | | |
| DRAWN D. RUFENACHT | 05/04/92 | SCALE SHOWN | | BLDG NO. 1 | | INDEX NO. | |
| CLASSIFICATION NONE | BY NOT REQD | DRAWING NUMBER H-2-120312 | | | SHEET 9 | OF 11 | REV 0 |

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|------------------------|----------|---------------------------|--|----------------------|--------------------------------|------------------------|------------------------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120312K | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | TU-130-001 SHAFT AND SPACER DETAILS | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA <i>CW</i> | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE <i>RBC</i> | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED | | | | | | | |
| E. GARCIA <i>91</i> | | 11-2-92 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| DRAWN | | | SCALE SHOWN | | BLDG NO. 1 | | INDEX NO. |
| D. RUFENACHT | | 05/04/92 | DRAWING NUMBER H-2-120312 | | SHEET 10 | OF 11 | REV 0 |
| CLASSIFICATION | | BY | | | | | |
| NONE | | NOT REQD | | | | | |

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DISTRIBUTION CODE: 403

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INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993


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|------------------------|----------|---------------------------|--|----------------------|--------------------|----|-----------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120312L | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office | | | | |
| SIGNATURE | | | DE - AC06-B6RL10B38 | | | | |
| PROJ DIR | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| NA | | | | | | | |
| QA MGR | | | TU-130-001 MODIFIED GEARED WHEEL DETAIL | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE | | | | |
| C. DIVONA <i>CD</i> | | | | | | | |
| DESIGN ENGINEER | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| R. CHOATE <i>RC</i> | | | | | | | |
| CHECKED | | | PROJECT | | FLUOR CONTRACT NO. | | CWBS NO. |
| E. GARCIA <i>EG</i> | | | B-595 | | 8457 | | P06B |
| DRAWN | | | SCALE | | BLDG NO. | | INDEX NO. |
| D. RUFENACHT | | | 1/2 | | 1 | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120312 | | 11 | 11 | 0 |

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

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|-----------------------------------|----------|---------------------------|--|----------------------|----|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120313A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10B38 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 FIXED STOP ASSEMBLY PARTS LIST & NOTES | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT B-595 FLUOR CONTRACT NO. 8457 CWBS NO. P06B | | | | |
| R. CHOATE <i>KBC</i> | | 11-3-92 | | | | | |
| CHECKED | | | SCALE 1/2 BLDG NO. 1 INDEX NO. | | | | |
| E. GARCIA <i>EL</i> | | 11-2-92 | | | | | |
| DRAWN | | | DRAWING NUMBER H-2-120313 SHEET 1 OF 3 REV 0 | | | | |
| L.C. SANVICTORES | | 11/11/91 | | | | | |
| CLASSIFICATION | | BY | | | | | |
| NONE | | NOT RECD | | | | | |

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | | | |
|------------------------|---------------------|---------------------------|--|----------------------|--------------------|----------|----------|-----------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA | |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA | |
| CADFILE | B120313B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10B38</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001 FIXED STOP WELDMENT & PLUNGER</p> | | | | | |
| REV _____ DATE _____ | | | | | | | | |
| ERO _____ | | | | | | | | |
| SIGNATURE | | DATE | | | | | | |
| PROJ DIR | | | | | | | | |
| QA MGR | | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | | |
| PROJECT MGR | | | | | | | | |
| SYSTEMS MGR | | | | | | | | |
| ENGINEERING MGR | | | | | | | | |
| SUPERVISOR | | | <p>PROJECT TITLE</p> <p>HANFORD WASTE VITRIFICATION PLANT</p> | | | | | |
| C. DIVONA <i>CD</i> | | 11-3-92 | | | | | | |
| DESIGN ENGINEER | | | | | | | | |
| R. CHOATE <i>KBC</i> | | 11-3-92 | | | | | | |
| CHECKED | E. GARCIA <i>EL</i> | 11-2-92 | PROJECT | B-595 | FLUOR CONTRACT NO. | 8457 | CWBS NO. | P06B |
| | DRAWN | L.C. SANVICTORES | 11/11/91 | SCALE | SHOWN | BLDG NO. | 1 | INDEX NO. |
| CLASSIFICATION | | BY | DRAWING NUMBER | | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120313 | | | 2 | 3 | 0 |

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77 78 79 80

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INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA |
|---|----------|---|---|----------------------------|------------------|----|
| | | | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B120313C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001 FIXED STOP DETAILS</p> | | | | |
| REV _____ DATE _____ | | | | | | |
| ERO _____ | | | | | | |
| SIGNATURE | DATE | | | | | |
| PROJ DIR NA | | | | | | |
| QA MGR NA | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | |
| PROJECT MGR NA | | | | | | |
| SYSTEMS MGR NA | | | | | | |
| ENGINEERING MGR NA | | | | | | |
| SUPERVISOR C. DIVONA <i>CPD</i> | | 11-3-92 | <p>PROJECT TITLE</p> <p>HANFORD WASTE VITRIFICATION PLANT</p> | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | | 11-3-92 | | | | |
| CHECKED E. GARCIA <i>gc</i> | | 11-2-92 | | | | |
| DRAWN L.C. SANVICTORES | | 11/11/91 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | |
| CLASSIFICATION NONE | | BY NOT RECD | SCALE SHOWN | BLDG NO. 1 | INDEX NO. | |
| DRAWING NUMBER H-2-120313 | | SHEET 3 | OF 3 | REV 0 | | |

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DISTRIBUTION CODE: 403

M72


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INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 04/08/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|---|----------------------|-------|----|-----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120314A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 SPIDER DRIVE ASSEMBLY PARTS LIST & NOTES | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | 11-3-92 | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | 11-3-92 | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | 11-2-92 | | | | |
| C. DIVONA <i>CD</i> | | | | | | | |
| DESIGN ENGINEER | | | 11-2-92 | | | | |
| R. CHOATE <i>RBC</i> | | | | | | | |
| CHECKED | | | 11-2-92 | | | | |
| E. GARCIA <i>EL</i> | | | | | | | |
| DRAWN | | | 12/26/91 | | | | |
| S. HORVAT | | | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120314 | | 1 | 7 | 0 |

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SUB-WELDMENT

SCALE : 1/4

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

38

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|------------------------|----------|---------------------------|----------------------|----------------|----|-------|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120314B | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY | | | | | |
| REV _____ DATE _____ | | Richland Field Office | | | | | |
| ERO _____ | | DE - AC06-B6RL10B38 | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR | | NA | | | | | |
| QA MGR | | NA | | | | | |
| INDEPENDENT SAFETY MGR | | NA | | | | | |
| PROJECT MGR | | NA | | | | | |
| SYSTEMS MGR | | NA | | | | | |
| ENGINEERING MGR | | NA | | | | | |
| SUPERVISOR | | C. DIVONA 11-3-92 | | | | | |
| DESIGN ENGINEER | | R. CHOATE 11-3-92 | | | | | |
| CHECKED | | E. GARCIA 11-2-92 | | | | | |
| DRAWN | | S. HORVAT 12/26/91 | | | | | |
| CLASSIFICATION | | BY | | DRAWING NUMBER | | SHEET | |
| NONE | | NOT REQD | | H-2-120314 | | 2 | |
| | | | | | | 7 | |
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FLUOR DANIEL, INC.
ADVANCED TECHNOLOGY DIVISION

TU-130-001
WELDMENT, DRIVE BASE
& SUB-WELDMENT

PROJECT TITLE
HANFORD WASTE VITRIFICATION PLANT

PROJECT B-595 FLUOR CONTRACT NO. 8457 CWBS NO. P06B

SCALE SHOWN BLDG NO. 1 INDEX NO.

DISTRIBUTION CODE: 403

M74

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INITIALS: PN

DATE: 03-16-93

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17 78 79 80

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

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|------------------------|----------|---|--------------------|----------------------|-----|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120314C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001 SPIDER DRIVE DETAILS</p> | | | | | |
| REV | DATE | | | | | | |
| ERO | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | <p>PROJECT TITLE</p> <p>HANFORD WASTE VITRIFICATION PLANT</p> | | | | | |
| C. DIVONA | 11-3-92 | | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | 11-3-92 | | | | | | |
| CHECKED | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | | |
| E. GARCIA | 11-2-92 | B-595 | 8457 | P06B | | | |
| DRAWN | | SCALE | BLDG NO. | INDEX NO. | | | |
| S. HORVAT | 1/8/92 | 1/2 | 1 | | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | | |
| NONE | NOT REQD | H-2-120314 | 3 | 7 | 0 | | |

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INITIALS: PN

DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

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|---|----------|---------------------------|--|----------------------|-------|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120314D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001 SPIDER DRIVE RAIL DETAILS</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CJD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RSC</i> | | 11-3-92 | | | | | |
| CHECKED E. GARCIA <i>JK</i> | | 11-2-92 | | | | | |
| DRAWN P. ASHLEY | | 2/10/92 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120314 | | 4 | 7 | 0 |

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INITIALS: PN


DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | | |
|---|----------|---------------------------|---|----------------------|---------|----------|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | WEG | KBC RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120314E | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001 SPIDER DRIVE DETAILS</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>C/D</i> | | 11-3-92 | <p>PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT</p> | | | | |
| DESIGN ENGINEER R. CHOATE <i>KBC</i> | | 11-3-92 | | | | | |
| CHECKED E. GARCIA <i>EL</i> | | 11-2-92 | | | | | |
| DRAWN P. ASHLEY | | 2/10/92 | | | | | |
| CLASSIFICATION NONE | | BY NOT RECD | DRAWING NUMBER H-2-120314 | SHEET 5 | OF 7 | REV 0 | |

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DISTRIBUTION CODE: 403

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INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

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|------------------------|----------|---------------------------|--|----------------------|----|----|----|--------------------------------|----------------------|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA | | | |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | | | | |
| CADFILE | B120314F | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001 SPIDER DRIVE WELDMENT DETAILS</p> | | | | | | | |
| REV _____ DATE _____ | | | | | | | | | | |
| ERO _____ | | | | | | | | | | |
| SIGNATURE | | DATE | | | | | | | | |
| PROJ DIR | | | | | | | | | | |
| QA MGR | | | | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | | | | |
| PROJECT MGR | | | | | | | | | | |
| SYSTEMS MGR | | | | | | | | | | |
| ENGINEERING MGR | | | | | | | | | | |
| SUPERVISOR | | | <p>PROJECT TITLE</p> <p>HANFORD WASTE VITRIFICATION PLANT</p> | | | | | | | |
| C. DIVONA <i>CJD</i> | | | | | | | | | | |
| 11-3-92 | | | | | | | | | | |
| DESIGN ENGINEER | | | | | | | | | | |
| R. CHOATE <i>RBC</i> | | | <p>PROJECT</p> <p>B-595</p> | | | | | FLUOR CONTRACT NO. <p>8457</p> | CWBS NO. <p>P06B</p> | |
| 11-3-92 | | | | | | | | | | |
| CHECKED | | | | | | | | | | |
| E. GARCIA <i>EL</i> | | | | | | | | | | |
| DRAWN | | | <p>SCALE</p> <p>1/2</p> | | | | | BLDG NO. <p>1</p> | INDEX NO. | |
| P. ASHLEY | | | | | | | | | | |
| 2/10/92 | | | | | | | | | | |
| CLASSIFICATION | | | | | | | | | | |
| NONE | | | <p>DRAWING NUMBER</p> <p>H-2-120314</p> | | | | | SHEET | OF | REV |
| NOT REOD | | | | | | | | | | |
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DISTRIBUTION CODE: 403


M78

ACAD

INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA/NA |
|--|----------|--|-------------------|-----------------------------------|----------------|-------------------------|
| | | | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B120314G | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | |
| ERO _____ | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE _____ DATE _____ | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR NA | | | | | | |
| QA MGR NA | | TU-130-001 SPIDER DRIVE DETAILS | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | |
| PROJECT MGR NA | | | | | | |
| SYSTEMS MGR NA | | | | | | |
| ENGINEERING MGR NA | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> 11-3-92 | | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> 11-3-92 | | PROJECT B-595 | | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B |
| CHECKED E. GARCIA <i>EG</i> 11-2-92 | | SCALE 1/1 | | BLDG NO. 1 | | INDEX NO. |
| DRAWN P. ASHLEY 2/10/92 | | DRAWING NUMBER H-2-120314 | | SHEET 7 | OF 7 | REV 0 |
| CLASSIFICATION NONE | | BY NOT REQD | | | | |

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DISTRIBUTION CODE: 403

M79


ACAD

INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|------------------------|-----------|---------------------------|--|----------------------|-------------|----------|----------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120315A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | TU-130-001 CART ASSEMBLY PARTS LIST & NOTES | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DRAWING INDEX | CHECKED | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| | E. GARCIA | 11-2-92 | B-595 | 8457 | P06B | | |
| | DRAWN | | SCALE | BLDG NO. | INDEX NO. | | |
| | R. MOREL | 3-10-92 | 1/8 | 1 | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT RECD | H-2-120315 | | 1 | 3 | 0 |

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INITIALS: PN
DATE: 03-16-93

DISTRIBUTION CODE: 403


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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | | |
|------------------------|----------|---------------------------|---|----------------------|-----------|----|-----|
| 0 | 04/66/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120315B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001</p> <p>CART ASSEMBLY</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE | | | | |
| C. DIVONA <i>C/D</i> | | | | | | | |
| DESIGN ENGINEER | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| R. CHOATE <i>RBC</i> | | | | | | | |
| CHECKED | | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| E. GARCIA <i>E/G</i> | | | B-595 | 8457 | P06B | | |
| DRAWN | | | SCALE | BLDG NO. | INDEX NO. | | |
| R. MOREL | | | 1/8 | 1 | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | | | SHEET | OF | REV |
| NONE | NOT REQD | H-2-120315 | | | 2 | 3 | 0 |

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DISTRIBUTION CODE: 403

M81

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INITIALS: PN

DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | | |
|------------------------|----------|---------------------------|--|----------------------|----|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120315C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-B6RL10B38 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | TU-130-001 CART ASSEMBLY | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT B-595 | | | | |
| C. DIVONA <i>CJD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | FLUOR CONTRACT NO. 8457 | | | | |
| R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| CHECKED | | | CWBS NO. P06B | | | | |
| E. GARCIA <i>EG</i> | | 11-2-92 | | | | | |
| DRAWN | | | BLDG NO. 1 | | | | |
| R. MOREL | | 3-12-92 | | | | | |
| CLASSIFICATION | | BY | INDEX NO. 0 | | | | |
| NONE | | NOT REQD | | | | | |
| | | | DRAWING NUMBER H-2-120315 | | | | |
| | | | SHEET 3 | | | | |
| | | | OF 3 | | | | |
| | | | REV 0 | | | | |

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| A | F | C |
| 77 | 78 | 79 80 |

DISTRIBUTION CODE: 403

M82

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INITIALS: PN

DATE: 03-16-93


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|--------|-------------------|----|----|
| 24-008 | STRUCTURAL TUBING | 11 | 45 |
| 24-008 | STRUCTURAL TUBING | 11 | 46 |

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|------------------------|----------|---------------------------|--|----------------------|----|----|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120316A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | TU-130-001 UPPER FRAME ASSEMBLY PARTS LIST & NOTES | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT B-595 | | | | |
| C. DIVONA <i>CpD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | FLUOR CONTRACT NO. 8457 | | | | |
| R. CHOATE <i>RBe</i> | | 11-3-92 | | | | | |
| CHECKED | | | CWBS NO. P06B | | | | |
| E. GARCIA <i>EL</i> | | 11-2-92 | | | | | |
| DRAWN | | | SCALE 1/8 | | | | |
| R. MOREL | | 04/07/92 | | | | | |
| CLASSIFICATION | | | BLDG NO. 1 | | | | |
| NONE | | | | | | | |
| BY | | | INDEX NO. 1 | | | | |
| NOT REQD | | | | | | | |
| | | | DRAWING NUMBER H-2-120316 | | | | |
| | | | | | | | |
| | | | SHEET 1 | | | | |
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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | | |
|------------------------------|----------|---|----------------------------|----------------------|----|-----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120316B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001 UPPER FRAME ASSEMBLY</p> | | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA | 11-3-92 | PROJECT TITLE | | | | | |
| DESIGN ENGINEER R. CHOATE | 11-3-92 | HANFORD WASTE VTRIFICATION PLANT | | | | | |
| CHECKED E. GARCIA | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | | |
| DRAWN R. MOREL | 04/09/92 | SCALE SHOWN | BLDG NO. 1 | INDEX NO. | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | | SHEET | OF | REV | |
| NONE | NOT REQD | H-2-120316 | | 2 | 11 | 0 | |


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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

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| 0 | 04/66 93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120316C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001 UPPER FRAME ASSEMBLY</p> | | | | | |
| REV | DATE | | | | | | |
| ERO | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | <p>PROJECT TITLE</p> <p>HANFORD WASTE VITRIFICATION PLANT</p> | | | | | |
| C. DIVONA | 11-3-92 | | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | 11-3-92 | | | | | | |
| CHECKED | | PROJECT | | FLUOR CONTRACT NO. | | CWBS NO. | |
| E. GARCIA | 11-2-92 | B-595 | | 8457 | | P06B | |
| DRAWN | | SCALE | | BLDG NO. | | INDEX NO. | |
| R. MOREL | 04/15/92 | 1/8 | | 1 | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | | | SHEET | OF | REV |
| NONE | NOT RECD | H-2-120316 | | | 3 | 11 | 0 |

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DISTRIBUTION CODE: 403

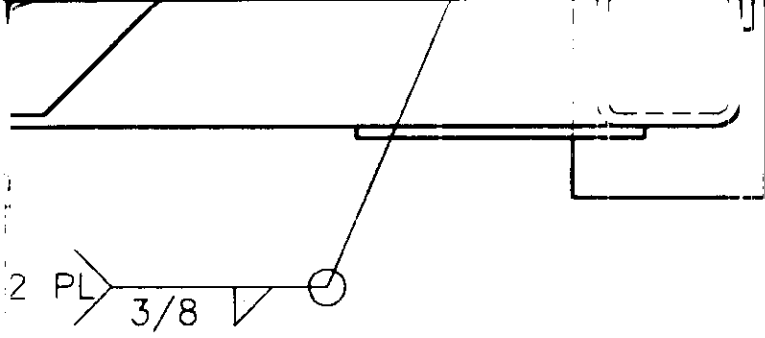
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INITIALS: PN


DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993


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|-----------------------------------|----------------------|---------------------------|--|-----------------------------------|-------------------------|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120316D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE | Richland Field Office DE - AC06-B6RL10838 | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | TU-130-001 UPPER FRAME ASSEMBLY | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NG INDEX | CHECKED E. GARCIA | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN R. MOREL | 04/29/92 | SCALE 1/8 | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | | |
| NONE | NOT REQD | H-2-120316 | 4 | 11 | 0 | | |

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

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|---|-----------------|---------------------------|--|-----------------------------------|-------------------------|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120316E | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10B38 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR NA | | | | | | | |
| DA MGR NA | | | TU-130-001 SUPPORT RAIL A ASSEMBLY & DETAILS | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE <i>KBC</i> | | 11-3-92 | PROJECT TITLE | | | | |
| CHECKED E. GARCIA <i>EL</i> | | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| DRAWN R. MOREL | | 05/01/92 | SCALE 1/8 | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | | |
| NONE | NOT REQD | H-2-120316 | 5 | 11 | 0 | | |

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DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

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|------------------------|----------|---------------------------|--|----------------------|----|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120316F | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-B6RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | TU-130-001 SUPPORT RAIL B ASSEMBLY & DETAILS | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT B-595 | | | | |
| C. DIVONA <i>CWD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | FLUOR CONTRACT NO. 8457 | | | | |
| R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| CHECKED | | | CWBS NO. P06B | | | | |
| E. GARCIA <i>EL</i> | | 11-2-92 | | | | | |
| DRAWN | | | SCALE SHOWN | | | | |
| R. MOREL | | 05/04/92 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER H-2-120316 | | | | |
| NONE | | NOT RECD | | | | | |
| | | | SHEET 6 | | | | |
| | | | OF 11 | | | | |
| | | | REV 0 | | | | |

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INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

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| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120316G | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE _____ DATE _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | TU-130-001 SUPPORT RAIL C ASSEMBLY & DETAILS | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CW</i> 11-3-92 | | | | | | | |
| DESIGN ENGINEER R. CHOATE <i>R3C</i> 11-3-92 | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| ING INDEX | CHECKED E. GARCIA <i>EL</i> 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | | |
| | DRAWN R. MOREL 05/04/92 | SCALE SHOWN | BLDG NO. 1 | INDEX NO. | | | |
| CLASSIFICATION NONE | BY NOT RECD | DRAWING NUMBER H-2-120316 | SHEET 7 | OF 11 | REV 0 | | |

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M89

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INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

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|-----------------------------------|----------|---------------------------|---|----------------------|--------------------|----|-----------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
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| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 SUPPORT RAIL D ASSEMBLY & DETAILS | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA <i>CJD</i> | | 11-3-92 | PROJECT TITLE | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE <i>RBC</i> | | 11-3-92 | PROJECT | | | | |
| CHECKED | | | | | | | |
| E. GARCIA <i>EL</i> | | 11-2-92 | B-595 | | FLUOR CONTRACT NO. | | CWBS NO. |
| DRAWN | | | SCALE | | BLDG NO. | | INDEX NO. |
| R. MOREL | | 05/04/92 | SHOWN | | 1 | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT RECD | H-2-120316 | | 8 | 11 | 0 |

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INITIALS: PN

DATE: 03-16-93


QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

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|------------------------|-----------|--|---|----------------------|-----------|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120316J | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001 UPPER FRAME DETAILS</p> | | | | | |
| REV | DATE | | | | | | |
| ERO | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR | | | | | | | |
| DA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | C. DIVONA | 11-3-92 | <p>PROJECT TITLE</p> <p>HANFORD WASTE VITRIFICATION PLANT</p> | | | | |
| DESIGN ENGINEER | R. CHOATE | 11-3-92 | | | | | |
| CHECKED | E. GARCIA | 11-2-92 | | | | | |
| DRAWN | R. MOREL | 05/04/92 | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| | | | B-595 | 8457 | P06B | | |
| | | | SCALE | BLOC NO. | INDEX NO. | | |
| | | | 1/4 | 1 | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | | |
| NONE | NOT RECD | H-2-120316 | 9 | 11 | 0 | | |

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 04/66/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|--|--|---------------------------|--|-----------------------------------|-------------------------|-----------------|-----------------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120316K | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE REV _____ DATE _____ ERO _____ | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | TU-130-001 UPPER FRAME DETAILS | | | | |
| SUPERVISOR C. DIVONA <i>CP</i> 11-3-92 | | | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> 11-3-92 | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| ING INDEX | CHECKED E. GARCIA <i>EG</i> 11-2-92 | | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN R. MOREL 05/04/92 | | SCALE 1/4 | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT RECD | DRAWING NUMBER H-2-120316 | | SHEET 10 | OF 11 | REV 0 |

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M92


ACAD

INITIALS: PN

DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|------------------------|----------|---------------------------|--|----------------------|--------------------|-----------|-----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120316L | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE -- AC06-B6RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | TU-130-001 UPPER FRAME DETAILS | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA <i>C/D</i> | | 11-3-92 | PROJECT | | FLUOR CONTRACT NO. | CWBS NO. | |
| DESIGN ENGINEER | | | B-595 | | 8457 | P06B | |
| R. CHOATE <i>RBC</i> | | 11-3-92 | SCALE | | BLDG NO. | INDEX NO. | |
| CHECKED | | | 1/4 | | 1 | | |
| E. GARCIA <i>EG</i> | | 11-2-92 | DRAWING NUMBER | | SHEET | OF | REV |
| DRAWN | | | H-2-120316 | | 11 | 11 | 0 |
| R. MOREL | | 05/04/92 | | | | | |
| CLASSIFICATION | BY | | | | | | |
| NONE | NOT REQD | | | | | | |

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INITIALS: PN

DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|--|----------|---------------------------|---|----------------------|--------------------------------|--------------------------|------------------------------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120317A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE REV _____ DATE _____ ERO _____ | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | TU-130-001 LOWER FRAME ASSY PARTS LIST & NOTES | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CW</i> 11-3-92 | | | PROJECT B-595 | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> 11-3-92 | | | | | | | |
| CHECKED E. GARCIA <i>EG</i> 11-2-92 | | | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| DRAWN R. MOREL 05/06/92 | | | SCALE NONE | | BLDS NO. 1 | | INDEX NO. 0 |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120317 | | | SHEET 1 | OF 8 |
| | | | | | | REV 0 | |

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DATE: 03-16-93

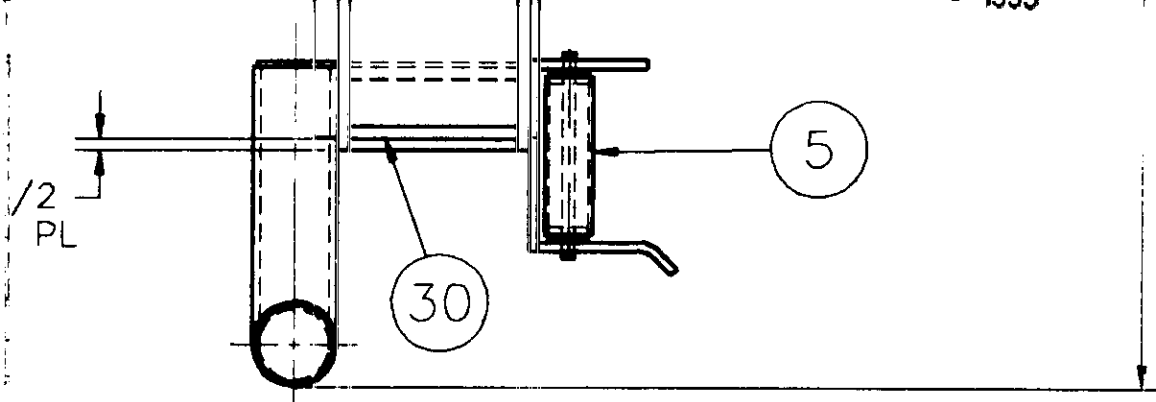
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QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA |
|------------------------|----------|--|-------------------|----------------------|-----|----|
| | | | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B120317B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | <p align="center">U.S. DEPARTMENT OF ENERGY</p> <p align="center">Richland Field Office DE - AC06-B6RL10B38</p> <p align="center"> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p align="center">TU-130-001 POUR TURNTABLE LOWER FRAME ASSEMBLY</p> | | | | |
| REV | DATE | | | | | |
| ERO | | | | | | |
| SIGNATURE | DATE | | | | | |
| PROJ DIR | | | | | | |
| QA MGR | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | |
| PROJECT MGR | | | | | | |
| SYSTEMS MGR | | | | | | |
| ENGINEERING MGR | | | | | | |
| SUPERVISOR | | | | | | |
| C. DIVONA | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | | | | |
| R. CHOATE | 11-3-92 | | | | | |
| CHECKED | | | | | | |
| E. GARCIA | 11-2-92 | | | | | |
| DRAWN | | | | | | |
| R. MOREL | 05/06/92 | | | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | |
| NONE | NOT REQD | H-2-120317 | 2 | 8 | 0 | |

INDEX



QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|------------------------|----------|---|---|--------------------|----------------------|----|-----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | | B120317C | CADCODE | | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | <p align="center">U.S. DEPARTMENT OF ENERGY</p> <p align="center">Richland Field Office DE - AC06-B6RL10838</p> <p align="center"> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p align="center">TU-130-001</p> <p align="center">LOWER FRAME ASSEMBLY</p> | | | | | |
| REV | DATE | | | | | | |
| ERO | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | <p align="center">PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT</p> | | | | |
| DESIGN ENGINEER | | | | | | | |
| CHECKED | | | | | | | |
| DRAWN | | | | | | | |
| NG INDEX | | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| | | | B-595 | 8457 | P06B | | |
| | | | SCALE | BLDG NO. | INDEX NO. | | |
| | | | 1/8 | 1 | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT RECD | H-2-120317 | | 3 | 8 | 0 |

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SECTION

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SCALE : 1/2

QUALITY LEVEL II

SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA |
|------------------------|----------|--|-------------------|----------------------|----|----|
| | | | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B120317D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10B38  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 LOWER FRAME BEAMS SECTIONS | | | | |
| REV _____ DATE _____ | | | | | | |
| ERO _____ | | | | | | |
| SIGNATURE | DATE | | | | | |
| PROJ DIR | | | | | | |
| QA MGR | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | |
| PROJECT MGR | | | | | | |
| SYSTEMS MGR | | | | | | |
| ENGINEERING MGR | | | | | | |
| SUPERVISOR | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA | | | | | | |
| 11-3-92 | | | | | | |
| | | | | | | |
| DESIGN ENGINEER | | PROJECT B-595 | | | | |
| R. CHOATE | | | | | | |
| 11-3-92 | | FLUOR CONTRACT NO. 8457 | | | | |
| | | | | | | |
| CHECKED | | CWBS NO. P06B | | | | |
| E. GARCIA | | | | | | |
| 11-2-92 | | SCALE SHOWN | | | | |
| | | | | | | |
| DRAWN | | BLDG NO. 1 | | | | |
| R. MOREL | | | | | | |
| 06/02/92 | | INDEX NO. | | | | |
| | | | | | | |
| CLASSIFICATION | | DRAWING NUMBER H-2-120317 | | | | |
| BY | | | | | | |
| NONE | | SHEET 4 | | | | |
| NOT RECD | | | | | | |
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DISTRIBUTION CODE: 403

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QUALITY LEVEL II
SAFETY CLASS 3

2 3/4

| 0 | 07/30/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
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| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
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| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | TU-130-001 STOP FIXED HOLDER DETAILS | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT B-595 | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | FLUOR CONTRACT NO. | | CWBS NO. | | |
| E. GARCIA | | 11-2-92 | 8457 | | P06B | | |
| DRAWN | | | BLDG NO. | | INDEX NO. | | |
| R. MOREL | | 6-03-92 | 1 | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT RECD | H-2-120317 | | 5 | 8 | 0 |

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INITIALS: PN

DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 01/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|----------------------------|----------|---|-------------------|----------------------|----|----|----|
| | | | NA | NA | NA | NA | NA |
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| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR | | TU-130-001 ROLLER DRUM AND BRACKET ASSY DETAILS | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | HANFORD WASTE VITRIFICATION PLANT | | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | PROJECT B-595 | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | FLUOR CONTRACT NO. 8457 | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | CWBS NO. P06B | | | | | |
| C. DIVONA | | | | | | | |
| DESIGN ENGINEER | | INDEX NO. | | | | | |
| R. CHOATE | | | | | | | |
| CHECKED | | INDEX NO. | | | | | |
| E. GARCIA | | | | | | | |
| DRAWN | | INDEX NO. | | | | | |
| R. MOREL | | | | | | | |
| CLASSIFICATION | | INDEX NO. | | | | | |
| NONE | | | | | | | |
| BY | | INDEX NO. | | | | | |
| NOT RECD | | | | | | | |
| DRAWING NUMBER | | INDEX NO. | | | | | |
| H-2-120317 | | | | | | | |
| SHEET | | INDEX NO. | | | | | |
| 6 | | | | | | | |
| OF | | INDEX NO. | | | | | |
| 8 | | | | | | | |
| REV | | INDEX NO. | | | | | |
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QUALITY LEVEL II
SAFETY CLASS 3


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| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120317G | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10B38 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA | | 11-3-92 | TU-130-001 LOWER FRAME ASSEMBLY PARTS DETAILS | | | | |
| DESIGN ENGINEER R. CHOATE | | 11-3-92 | | | | | |
| G INDEX | CHECKED E. GARCIA | 11-2-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| | DRAWN R. MOREL | 06/04/92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | | | SCALE 1/4 | BLDG NO. 1 | INDEX NO. | | |
| | CLASSIFICATION NONE | BY NOT REQD | DRAWING NUMBER H-2-120317 | | SHEET 7 | OF 8 | REV 0 |

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QUALITY LEVEL II
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| ERO _____ | | | Richland Field Office DE - AC06-B6RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 LOWER FRAME ASSEMBLY PARTS DETAILS | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | | | | | |
| NA | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | PROJECT B-595 | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | FLUOR CONTRACT NO. 8457 | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | CWBS NO. P06B | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | BLDG NO. 1 | | | | |
| CHECKED | | | | | | | |
| E. GARCIA | | 11-2-92 | INDEX NO. | | | | |
| DRAWN | | | | | | | |
| R. MOREL | | 06/04/92 | DRAWING NUMBER H-2-120317 | | | | |
| CLASSIFICATION | | | | | | | |
| NONE | | NOT REQD | SHEET 8 | | OF 8 | | REV 0 |

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INITIALS: PN
DATE: 03-16-93

AFC
77 78 79 80

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|--|--------------------------------|---------------------------|--|-----------------------------------|-------------------------|----------------|-----------------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120318A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE | Richland Field Office DE - AC06-B6RL10838 | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | TU-130-001 CAROUSEL ASSEMBLY | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| CHECKING INDEX | CHECKED E. GARCIA <i>EG</i> | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN P. ASHLEY | 01/14/92 | SCALE 1/8 | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT RECD | DRAWING NUMBER H-2-120318 | | SHEET 1 | OF 4 | REV 0 |


DISTRIBUTION CODE: 403

M102 ACAD

INITIALS: PN
DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|----------------------------|----------|--|-------------------|----------------------|----|------------------|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120318B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR | | TU-130-001 CAROUSEL ASSEMBLY | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | | |
| PROJECT MGR | | | | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | PROJECT B-595 | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | FLUOR CONTRACT NO. | | CWBS NO. | | | |
| C. DIVONA <i>JD</i> | | 11-3-92 | | 8457 | | P06B | |
| DESIGN ENGINEER | | SCALE | | BLDG NO. | | INDEX NO. | |
| R. CHOATE <i>KBC</i> | | 11-3-92 | | 1 | | | |
| CHECKED | | DRAWING NUMBER | | SHEET | | OF | |
| E. GARCIA <i>JE</i> | | 11-2-92 | | H-2-120318 | | 2 | |
| DRAWN | | | | | | | |
| P. ASHLEY | | 01/14/92 | | | | | |
| CLASSIFICATION | | | | | | | |
| NONE | | NOT RECD | | | | | |
| | | | | | | | |
| | | | | | | | |

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A

DISTRIBUTION CODE: 403

M103 ACAD

INITIALS: PN

DATE: 03-16-93


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APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|------------------------|-----------------|---------------------------|--|----------------------|-------------|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120318C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERD _____ | | | Richland Field Office DE - AC06-86RL10B38 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 CAROUSEL DETAILS | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| E. GARCIA | | 11-2-92 | B-595 | 8457 | P06B | | |
| DRAWN | | | SCALE | BLDG NO. | INDEX NO. | | |
| P. ASHLEY | | 01/23/92 | SHOWN | 1 | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | | |
| NONE | NOT REQD | H-2-120318 | 3 | 4 | 0 | | |

DISTRIBUTION CODE: 403

M104 ACAD

INITIALS: PN


DATE: 03-16-93

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| A | F | C |
| 77 | 78 | 79 80 |

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | | |
|--------------------------------------|----------|--|----------------|---------|----------------------|----|-------|
| | | | | | | | |
| 0 | 04/6/93 | APPROVED FOR CONSTRUCTION | | EG | RC | CD | NA/NA |
| | | | | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | | | APPROVAL INITIALS | | |
| CADFILE | B120318D | | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10B38</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001 CAROUSEL SUB-WELDMENT</p> | | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA 11-3-92 | | <p>PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT</p> | | | | | |
| DESIGN ENGINEER R. CHOATE 11-3-92 | | | | | | | |
| CHECKED E. GARCIA 11-2-92 | | | | | | | |
| DRAWN P. ASHLEY 01/22/92 | | | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120318 | | 4 | 4 | 0 |

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FC
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DISTRIBUTION CODE: 403


M105 ACAD

1

INITIALS: PN
DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|-----------------------------------|----------|---------------------------|--|----------------------|--------------------------------|----|-----|
| 0 | 04/10/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120319A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10B38 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | TU-130-001 CONDUIT & CABLE ASSEMBLY | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT B-595 | | | | |
| R. CHOATE <i>RC</i> | | 11-3-92 | | | | | |
| CHECKED | | | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| E. GARCIA <i>EG</i> | | 11-2-92 | SCALE NONE | | INDEX NO. 1 | | |
| DRAWN | | | BLDG NO. 1 | | | | |
| EYBARRA | | 3/10/92 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120319 | | 1 | 7 | 0 |

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1

INITIALS: PN

DATE: 03-16-93

DISTRIBUTION CODE: 402

M106 ACAD

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APR - 8 1993

PULL BOX #PB3

QUALITY LEVEL II

SAFETY CLASS 3

RE 0450-020)

| | | | | | | | |
|---|----------|---------------------------|--|-----------------------------------|-------------------------|----------|----------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120319B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | TU-130-001 CONDUIT & CABLE ASSEMBLY | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE <i>KBC</i> | | 11-3-92 | PROJECT TITLE | | | | |
| CHECKED E. GARCIA <i>EL</i> | | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| DRAWN EYBARRA | | 05/11/92 | SCALE 1/8 | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120319 | | 2 | 7 | 0 |

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DISTRIBUTION CODE: 402

M107 ACAD

INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|------------------------|----------|---------------------------|--|----------------------|-------------|----------|----------|
| 0 | 04/66/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120319C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-B6RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | TU-130-001 CONDUIT & CABLE ASSEMBLY | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE <i>RBC</i> | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| CHECKED | | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| E. GARCIA <i>EG</i> | | 11-2-92 | B-595 | 8457 | P06B | | |
| DRAWN | | | SCALE | BLDG NO. | INDEX NO. | | |
| EYBARRA | | 03/10/92 | 1/12 | 1 | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120319 | | 3 | 7 | 0 |

ING INDEX


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| 2 | AFC |
| 77 78 79 80 | |

DISTRIBUTION CODE: 402

M108 ACAD

INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II SAFETY CLASS 3

| | | | | | | | |
|------------------------|----------|--|--|----------------------|----|-----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120319D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10B38</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001 CONDUIT & CABLE ASSEMBLY</p> | | | | | |
| REV | DATE | | | | | | |
| ERO | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | <p>PROJECT TITLE</p> <p>HANFORD WASTE VITRIFICATION PLANT</p> | | | | |
| C. DIVONA | 11-3-92 | | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | 11-3-92 | | | | | | |
| CHECKED | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | | |
| E. GARCIA | 11-2-92 | B-595 | 8457 | P06B | | | |
| DRAWN | | SCALE | BLDG NO. | INDEX NO. | | | |
| J. KAPPELER | 06/26/92 | 1/8 | 1 | | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | | SHEET | OF | REV | |
| NONE | NOT REQD | H-2-120319 | | 4 | 7 | 0 | |

DISTRIBUTION CODE: 403


M109 ACAD

INITIALS: PN
DATE: 03-16-93

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77 78 79 80

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | |
|------------------------|----------|--|---|----------------------|----|----|
| 0 | 01/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA |
| | | | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B120319E | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | |
| ERO _____ | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | |
| PROJ DIR | | | | | | |
| NA | | | TU-130-001 CONDUIT & CABLE ASSY DETAILS | | | |
| QA MGR | | | | | | |
| NA | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | |
| NA | | | | | | |
| PROJECT MGR | | | | | | |
| NA | | | HANFORD WASTE VITRIFICATION PLANT | | | |
| SYSTEMS MGR | | | | | | |
| NA | | | PROJECT B-595 | | | |
| ENGINEERING MGR | | | | | | |
| NA | | | FLUOR CONTRACT NO. 8457 | | | |
| SUPERVISOR | | | | | | |
| C. DIVONA | | 11-3-92 | CWBS NO. P06B | | | |
| DESIGN ENGINEER | | | | | | |
| R. CHOATE | | 11-3-92 | SCALE NONE | | | |
| CHECKED | | | | | | |
| E. GARCIA | | 11-2-92 | BLDG NO. 1 | | | |
| DRAWN | | | | | | |
| EYBARRA | | 3/10/92 | INDEX NO. | | | |
| CLASSIFICATION | | | | | | |
| NONE | | NOT REQD | DRAWING NUMBER H-2-120319 | | | |
| | | | | | | |
| | | | SHEET 5 | | | |
| | | | | | | |
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| | | | | | | |
| | | | REV 0 | | | |
| | | | | | | |

DISTRIBUTION CODE: 403


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INITIALS: PN

DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|------------------------|----------|---------------------------|--|----------------------|-------|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120319F | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | TU-130-001 CONDUIT & CABLE ASSY DETAILS | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | | | | | |
| NA | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | PROJECT TITLE | | | | |
| DESIGN ENGINEER | | | 8457 | | | | |
| R. CHOATE | | 11-3-92 | CWBS NO. | | | | |
| CHECKED | | | P06B | | | | |
| E. GARCIA | | 11-2-92 | SCALE | | | | |
| DRAWN | | | 1/1 | | | | |
| EYBARRA | | 3/10/92 | BLDG NO. | | | | |
| | | | 1 | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120319 | | 6 | 7 | 0 |

DISTRIBUTION CODE: 403


M111 ACAD

INITIALS: PN
DATE: 03-16-93

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APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

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|---|-----------------------|---------------------------|--|-------------------------|-----------------|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120319G | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 CONDUIT & CABLE ASSY DETAILS | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CW</i> | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| CHECKED E. GARCIA <i>EG</i> | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | | |
| | 3/10/92 | SCALE 1/1 | BLDG NO. 1 | INDEX NO. | | | |
| DRAWN EYBARRA | | 3/10/92 | DRAWING NUMBER H-2-120319 | | | | |
| CLASSIFICATION NONE | BY NOT REQD | SHEET 7 | | OF 7 | REV 0 | | |

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DISTRIBUTION CODE: 403

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M112 ACAD

INITIALS: PN
DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|-----------------------------------|---------------------|---------------------------|---|----------------------|-------------|----------|----------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120320A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | TU-130-001 CART HEAT SHIELD SUPPORT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA <i>C/D</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| R. CHOATE <i>RCC</i> | | 11-3-92 | | | | | |
| ING INDEX | CHECKED | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| | E. GARCIA <i>EL</i> | 11-2-92 | B-595 | 8457 | P06B | | |
| | DRAWN | | SCALE | BLDG NO. | INDEX NO. | | |
| | R. MOREL | 4-3-92 | SHOWN | 1 | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REOD | H-2-120320 | | 1 | 1 | 0 |

INITIALS: PN
DATE: 03-16-93


DISTRIBUTION CODE: 403

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APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|-----------------------------------|----------|---------------------------|--|----------------------|----|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120368A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | TU-130-002 DRAIN TURNTABLE PARTS LIST & NOTES | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT B-595 | | | | |
| C. DIVONA <i>C/D</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | FLUOR CONTRACT NO. 8457 | | | | |
| R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| CHECKED | | | CWBS NO. P06B | | | | |
| E. GARCIA <i>EG</i> | | 11-2-92 | | | | | |
| DRAWN | | | BLDG NO. 1 | | | | |
| B. SINES | | 06/17/92 | | | | | |
| CLASSIFICATION | | | INDEX NO. 1 | | | | |
| NONE | | | | | | | |
| BY | | | DRAWING NUMBER H-2-120368 | | | | |
| NOT REQD | | | | | | | |
| | | | SHEET 1 | | | | |
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| | | | OF 20 | | | | |
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| | | | REV 0 | | | | |
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INITIALS: PN
DATE: 03-16-93

DISTRIBUTION CODE: 402

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QUALITY LEVEL II
SAFETY CLASS 3


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|---|----------|---|-------------------|----------------------|----|-----------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA |
| | | | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B120368B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002 DRAIN TURNTABLE ASSEMBLY</p> | | | | |
| REV _____ DATE _____ | | | | | | |
| ERO _____ | | | | | | |
| SIGNATURE | DATE | | | | | |
| PROJ DIR NA | | | | | | |
| QA MGR NA | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | |
| PROJECT MGR NA | | | | | | |
| SYSTEMS MGR NA | | | | | | |
| ENGINEERING MGR NA | | | | | | |
| SUPERVISOR C. DIVONA <i>CJD</i> 11-3-92 | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE <i>RSC</i> 11-3-92 | | PROJECT B-595 | | | | |
| CHECKED E. GARCIA <i>JA</i> 11-2-92 | | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| DRAWN R. MOREL 06/17/92 | | SCALE 1/8 | | BLDG NO. 1 | | INDEX NO. |
| CLASSIFICATION | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | NOT RECD | H-2-120368 | | 2 | 20 | 0 |

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QUALITY LEVEL II
SAFETY CLASS 3

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|------------------------|----------|---------------------------|--|----------------------|------------------------|----|------------------------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120368C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10B38 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | TU-130-002 DRAIN TURNTABLE ASSEMBLY | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT B-595 | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | FLUOR CONTRACT NO. 8457 | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | CWBS NO. P06B | | | | |
| E. GARCIA | | 11-2-92 | | | | | |
| DRAWN | | | SCALE 1/8 | | | | |
| B. SINES | | 06/10/92 | | | | | |
| CLASSIFICATION | | | BLDG NO. 1 | | | | |
| NONE | | | | | | | |
| BY | | | INDEX NO. 0 | | | | |
| NOT REQD | | | | | | | |
| | | | DRAWING NUMBER H-2-120368 | | | | |
| | | | SHEET 3 | | OF 20 | | REV 0 |

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DISTRIBUTION CODE: 402

M116 ACAD

INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

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|------------------------|-----------------------|---------------------------|---|----------------------|-----------|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120368D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p align="center">U.S. DEPARTMENT OF ENERGY</p> <p align="center">Richland Field Office DE - AC06-B6RL10838</p> <p align="center"> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p align="center">TU-130-002 DRAIN TURNTABLE ASSEMBLY</p> | | | | |
| REV | DATE | | | | | | |
| ERO | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR | NA | | | | | | |
| QA MGR | NA | | | | | | |
| INDEPENDENT SAFETY MGR | NA | | | | | | |
| PROJECT MGR | NA | | | | | | |
| SYSTEMS MGR | NA | | | | | | |
| ENGINEERING MGR | NA | | | | | | |
| SUPERVISOR | C. DIVONA C/D 11-3-92 | | <p align="center">PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT</p> | | | | |
| DESIGN ENGINEER | R. CHOATE RBC 11-3-92 | | | | | | |
| CHECKED | E. GARCIA RBC 11-2-92 | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| DRAWN | P. NGUYEN 04/09/92 | | B-595 | 8457 | P06B | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SCALE | BLDG NO. | INDEX NO. | | |
| NONE | NOT RECD | H-2-120368 | 1/8 | 1 | | | |
| | | | SHEET | OF | REV | | |
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DISTRIBUTION CODE: 402

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DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|---|--------------------------------|---------------------------|--|-----------------------------------|-------------------------|-----------------|-----------------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120368E | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10B38 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 DRAIN TURNTABLE ASSEMBLY | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CJD</i> | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE <i>RJC</i> | | 11-3-92 | | | | | |
| CHECK INDEX | CHECKED E. GARCIA <i>EG</i> | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN P. NGUYEN | 04/14/92 | SCALE 1/8 | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120368 | | SHEET 5 | OF 20 | REV 0 |

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DISTRIBUTION CODE: 402

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M118 ACAD

INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

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|------------------------|-----------------------------|--|----------------------|-----------|----|----|----|
| 0 | 04/66/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120368F | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | | |
| REV | DATE | | | | | | |
| ERO | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR | NA | TU-130-002 DRAIN TURNTABLE ASSEMBLY | | | | | |
| QA MGR | NA | | | | | | |
| INDEPENDENT SAFETY MGR | NA | | | | | | |
| PROJECT MGR | NA | | | | | | |
| SYSTEMS MGR | NA | | | | | | |
| ENGINEERING MGR | NA | | | | | | |
| SUPERVISOR | C. DIVONA <i>CD</i> 11-3-92 | | | | | | |
| DESIGN ENGINEER | R. CHOATE <i>RC</i> 11-3-92 | | | | | | |
| CHECKED | E. GARCIA <i>EG</i> 11-2-92 | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | | |
| DRAWN | P. NGUYEN 04/17/92 | B-595 | 8457 | P06B | | | |
| CLASSIFICATION | BY | SCALE | BLDG NO. | INDEX NO. | | | |
| NONE | NOT REQD | 1/8 | 1 | | | | |
| DRAWING NUMBER | | SHEET | OF | REV | | | |
| H-2-120368 | | 6 | 20 | 0 | | | |

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INITIALS: PN
DATE: 03-16-93

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APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3


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|-----------------------------------|----------|---------------------------|--|----------------------|-------------------------|----|-----|
| 0 | 04/66/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120368G | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 DRAIN TURNTABLE ASSEMBLY | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED | | | | | | | |
| E. GARCIA | | 11-2-92 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| DRAWN | | | BLDG NO. 1 | | INDEX NO. | | |
| P. NGUYEN | | 04/17/92 | SCALE 1/8 | | INDEX NO. | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120368 | | 7 | 20 | 0 |

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APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

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|--|----------|---------------------------|---|----------------------|-------------------|-----------------|-----------------|
| 0 | 04/66/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120368H | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002 DRAIN TURNTABLE ASSEMBLY</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11-3-92 | <p>PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT</p> | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> | | 11-3-92 | | | | | |
| CHECKED E. GARCIA <i>EG</i> | | 11-2-92 | | | | | |
| DRAWN P. NGUYEN | | 04/22/92 | | | | | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120368 | | SHEET 8 | OF 20 | REV 0 |

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DISTRIBUTION CODE: 402


M121 ACAD

INITIALS: PN

DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

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|-----------------------------------|--------------|---------------------------|---|----------------------|----|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | --B120368J-- | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 DRAIN TURNTABLE ASSEMBLY | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | PROJECT B-595 FLUOR CONTRACT NO. 8457 CWBS NO. P06B | | | | |
| CHECKED | | | | | | | |
| E. GARCIA | | 11-2-92 | SCALE 1/2 BLDG NO. 1 INDEX NO. | | | | |
| DRAWN | | | | | | | |
| P. NGUYEN | | 04/22/92 | SHEET 9 OF 20 REV 0 | | | | |
| CLASSIFICATION | | | | | | | |
| NONE | | NOT REQD | DRAWING NUMBER H-2-120368 | | | | |

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DISTRIBUTION CODE: 402

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INITIALS: PN


DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

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|--|----------|---------------------------|---|----------------------|----|-----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120368K | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002 DRIVE ARM ASSEMBLY & DETAILS</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11-3-92 | <p>PROJECT TITLE</p> <p>HANFORD WASTE VITRIFICATION PLANT</p> | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> | | 11-3-92 | | | | | |
| CHECKED E. GARCIA <i>EG</i> | | 11-2-92 | | | | | |
| DRAWN P. NGUYEN | | 04/30/92 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | SHEET | OF | REV | |
| NONE | | NOT REQD | H-2-120368 | 10 | 20 | 0 | |

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QUALITY LEVEL II
SAFETY CLASS 3


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|------------------------|----------|---|---|----------------------|----|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120368L | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002 WHEEL COVER ASSEMBLY & DETAILS</p> | | | | | |
| REV | DATE | | | | | | |
| ERO | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | <p>PROJECT TITLE</p> <p>HANFORD WASTE VITRIFICATION PLANT</p> | | | | |
| C. DIVONA | 11-3-92 | | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | 11-3-92 | <p>PROJECT</p> <p>B-595</p> | | | | | |
| CHECKED | | | | | | | |
| E. GARCIA | 11-2-92 | | | | | | |
| DRAWN | | <p>FLUOR CONTRACT NO.</p> <p>8457</p> | | | | | |
| P. NGUYEN | 05/01/92 | | | | | | |
| SCALE | | | | | | | |
| CLASSIFICATION | BY | <p>BLDG NO.</p> <p>1</p> | | | | | |
| NONE | NOT REQD | | | | | | |
| | | | | | | | |
| | | <p>DRAWING NUMBER</p> <p>H-2-120368</p> | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | <p>SHEET</p> <p>11</p> | | | | | |
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| | | | | | | | |
| | | <p>OF</p> <p>20</p> | | | | | |
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| | | <p>REV</p> <p>0</p> | | | | | |
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APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|------------------------|-----------------|---|--------------------|----------------------|----------|----|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120368M | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | <p align="center">U.S. DEPARTMENT OF ENERGY</p> <p align="center">Richland Field Office DE - AC06-B6RL10B38</p> <p align="center"> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p align="center">TU-130-002 WHEEL COVER ASSEMBLY & DETAILS</p> | | | | | |
| REV | DATE | | | | | | |
| ERO | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | <p align="center">PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT</p> | | | | | |
| C. DIVONA | 11-3-92 | | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | 11-3-92 | | | | | | |
| CHECKED | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | | |
| E. GARCIA | 11-2-92 | B-595 | 8457 | P06B | | | |
| DRAWN | | SCALE | BLDG NO. | INDEX NO. | | | |
| P. NGUYEN | 05/01/92 | 1/4 | 1 | | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | | |
| NONE | NOT REQD | H-2-120368 | 12 | 20 | 0 | | |

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DISTRIBUTION CODE: 402

M125 ACAD


INITIALS: PN

DATE: 03-16-93

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APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|-------------------------------|-----------------------|---|---|-------------------------|-----------------|-----------------|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120368N | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002 BASE WELDMENT</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA | 11-3-92 | <p>PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT</p> | | | | | |
| DESIGN ENGINEER R. CHOATE | 11-3-92 | | | | | | |
| CHECKED E. GARCIA | 11-2-92 | | | | | | |
| DRAWN P. NGUYEN | 05/01/92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | | |
| | | SCALE 1/2 | BLDG NO. 1 | INDEX NO. | | | |
| CLASSIFICATION NONE | BY NOT REQD | DRAWING NUMBER H-2-120368 | | SHEET 13 | OF 20 | REV 0 | |

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DISTRIBUTION CODE: 402

M126 ACAD

1 INITIALS: PN
DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|-----------------------------------|----------|---------------------------|---|----------------------|----|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120368P | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 DRAIN TURNTABLE DETAILS | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED | | | | | | | |
| E. GARCIA | | 11-2-92 | FLUOR CONTRACT NO. 8457 | | | | |
| DRAWN | | | | | | | |
| P. NGUYEN | | 05/20/92 | CWBS NO. P06B | | | | |
| CLASSIFICATION | | | | | | | |
| NONE | | | BLDG NO. 1 | | | | |
| NOT REQD | | | | | | | |
| | | | INDEX NO. | | | | |
| | | | | | | | |
| | | | DRAWING NUMBER H-2-120368 | | | | |
| | | | | | | | |
| | | | SHEET 14 | | | | |
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| | | | OF 20 | | | | |
| | | | | | | | |
| | | | REV 0 | | | | |
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INITIALS: PN

DATE: 03-16-93


DISTRIBUTION CODE: 402

M127 ACAD

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APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|--|--|---------------------------|--|-----------------------------------|-------------------------|-----------------|-----------------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120368R | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE REV _____ DATE _____ ERO _____ | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | TU-130-002 ENCLOSURE MTG BRACKET ASSEMBLY & DETAILS | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> 11-3-92 | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> 11-3-92 | | | | | | | |
| CHECK INDEX | CHECKED E. GARCIA <i>EG</i> 11-2-92 | | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN P. NGUYEN 05/14/92 | | SCALE SHOWN | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT RECD | DRAWING NUMBER H-2-120368 | | SHEET 15 | OF 20 | REV 0 |

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/56/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|---|----------------------|-------------|-----------|----------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120368S | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 DRAIN TURNTABLE DETAILS | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA <i>CW</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| CHECKED | | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| E. GARCIA <i>EL</i> | | 11-2-92 | B-595 | 8457 | P06B | | |
| DRAWN | | | SCALE | BLDG NO. | INDEX NO. | | |
| P. NGUYEN | | 05/15/92 | 1/1 | 1 | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120368 | | 16 | 20 | 0 |

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| A | F | C |
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DISTRIBUTION CODE: 402


M129 ACAD

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INITIALS: PN
DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|------------------------|----------|---------------------------|--|----------------------|----|----|----|
| 0 | 04/66/93 | APPROVED FOR CONSTRUCTION | REG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120368T | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office | | | | |
| SIGNATURE | | | DE - AC06-86RL10838 | | | | |
| DATE | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | TU-130-002 DRAIN TURNTABLE DETAILS | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | | | | | |
| NA | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | PROJECT B-595 | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | FLUOR CONTRACT NO. 8457 | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | | CWBS NO. P06B | | | | |
| 11-3-92 | | | | | | | |
| DESIGN ENGINEER | | | SCALE SHOWN | | | | |
| R. CHOATE | | | | | | | |
| 11-3-92 | | | BLDG NO. 1 | | | | |
| CHECKED | | | | | | | |
| E. GARCIA | | | INDEX NO. | | | | |
| 11-2-92 | | | | | | | |
| DRAWN | | | REV | | | | |
| P. NGUYEN | | | | | | | |
| 05/15/92 | | | SHEET 17 | | | | |
| CLASSIFICATION | | | | | | | |
| NONE | | | OF 20 | | | | |
| NOT REQD | | | | | | | |
| DRAWING NUMBER | | | 0 | | | | |
| H-2-120368 | | | | | | | |

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DISTRIBUTION CODE: 402

M130 ACAD

INITIALS: PN
DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 07/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|---|--------------------------------|---------------------------|--|-----------------------------------|-------------------------|-----------------|-----------------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120368U | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-B6RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | TU-130-002 DRAIN TURNTABLE DETAILS | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CW</i> | | 11-3-92 | HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| ING INDEX | CHECKED E. GARCIA <i>EL</i> | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN P. NGUYEN | 05/19/92 | SCALE 1/4 | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120368 | | SHEET 18 | OF 20 | REV 0 |

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DISTRIBUTION CODE: 402

M131 ACAD

1
INITIALS: PN
DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|-----------------------------------|----------|---------------------------|---|----------------------|----|----|----|
| 0 | 07/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120368V | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 LIMIT SWITCH WELDMENT | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | TU-130-002 LIMIT SWITCH WELDMENT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | PROJECT B-595 FLUOR CONTRACT NO. 8457 CWBS NO. P06B | | | | |
| CHECKED | | | | | | | |
| E. GARCIA | | 11-2-92 | SCALE SHOWN BLDG NO. 1 INDEX NO. | | | | |
| DRAWN | | | | | | | |
| D. RUFENAC | | 09/09/92 | DRAWING NUMBER H-2-120368 SHEET 19 OF 20 REV 0 | | | | |
| CLASSIFICATION | | | | | | | |
| NONE | | NOT RECD | | | | | |

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| 77 | 78 | 79 80 |

DISTRIBUTION CODE: 403

M132 ACAD


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INITIALS: PN

DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 6/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA | |
|-----------------------------------|----------|---------------------------|---|----------------------|--------------------|-------|-----------|-----|
| | | | NA | NA | NA | NA | NA | |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | | |
| CADFILE | B120368W | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 DRAIN TURNTABLE SECTIONS & VIEWS | | | | | |
| PROJ DIR | | | | | | | | |
| NA | | | | | | | | |
| QA MGR | | | | | | | | |
| NA | | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | | |
| NA | | | | | | | | |
| PROJECT MGR | | | TU-130-002 DRAIN TURNTABLE SECTIONS & VIEWS | | | | | |
| NA | | | | | | | | |
| SYSTEMS MGR | | | | | | | | |
| NA | | | | | | | | |
| ENGINEERING MGR | | | | | | | | |
| NA | | | | | | | | |
| SUPERVISOR | | | | | | | | |
| C. DIVONA | | 11-3-92 | HANFORD WASTE VITRIFICATION PLANT | | | | | |
| DESIGN ENGINEER | | | | | | | | |
| R. CHOATE | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | | |
| CHECKED | | | | | | | | |
| E. GARCIA | | 11-2-92 | PROJECT | | FLUOR CONTRACT NO. | | CWBS NO. | |
| | | | B-595 | | 8457 | | P06B | |
| DRAWN | | | SCALE | | BLDG NO. | | INDEX NO. | |
| D. RUFENAC | | 09/09/92 | 1/8 | | 1 | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | | SHEET | OF | REV |
| NONE | | NOT RECD | H-2-120368 | | | 20 | 20 | 0 |

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DISTRIBUTION CODE: 403


M133 ACAD

INITIALS: PN

DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

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|-----------------------------------|----------|---------------------------|--|----------------------|--------------------|-----------|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120369A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 CANISTER GUIDE WELDMENT PARTS LIST & NOTES | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT | | FLUOR CONTRACT NO. | CWBS NO. | |
| R. CHOATE | | 11-3-92 | B-595 | | 8457 | P06B | |
| CHECKED | | | SCALE | | BLDG NO. | INDEX NO. | |
| E. GARCIA | | 11-2-92 | SHOWN | | 1 | | |
| DRAWN | | | DRAWING NUMBER | | SHEET | OF | REV |
| J. KAPPELER | | 01/20/92 | H-2-120369 | | 1 | 2 | 0 |
| CLASSIFICATION | | BY | | | | | |
| NONE | | NOT RECD | | | | | |

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DISTRIBUTION CODE: 403

M134 ACAD


INITIALS: PN

DATE: 03-16-93

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APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

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|------------------------|--------------|--|---|----------------------|-----|----|----|
| 0 | 04/106/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120369B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002 DRAIN TURN TABLE CANISTER GUIDE DETAILS</p> | | | | | |
| REV | DATE | | | | | | |
| ERO | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | C. DIVONA | 11-3-92 | <p>PROJECT TITLE</p> <p>HANFORD WASTE VITRIFICATION PLANT</p> | | | | |
| DESIGN ENGINEER | R. CHOATE | 11-3-92 | | | | | |
| CHECKED | E. GARCIA | 11-2-92 | | | | | |
| DRAWN | M. PICCIOTTA | 12-17-91 | | | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | | |
| NONE | NOT REQD | H-2-120369 | 2 | 2 | 0 | | |

DISTRIBUTION CODE: 403


M135 ACAD

INITIALS: PN
DATE: 03-16-93

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APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

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|-----------------------------------|----------|---------------------------|--|----------------------|----|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120370A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10B38 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 CANISTER DOLLY ASSEMBLY PARTS LIST & NOTES | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT B-595 | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | FLUOR CONTRACT NO. 8457 | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | CWBS NO. P06B | | | | |
| E. GARCIA | | 11-2-92 | | | | | |
| DRAWN | | | SCALE 1/4 | | | | |
| D. SMITH | | 02/26/92 | | | | | |
| CLASSIFICATION | | | BLDG NO. 1 | | | | |
| NONE | | | | | | | |
| BY | | | INDEX NO. | | | | |
| NOT REOD | | | | | | | |
| | | | DRAWING NUMBER H-2-120370 | | | | |
| | | | | | | | |
| | | | SHEET 1 | | | | |
| | | | | | | | |
| | | | OF 8 | | | | |
| | | | | | | | |
| | | | REV 0 | | | | |
| | | | | | | | |

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INDEX

AFC
77 78 79 80


DISTRIBUTION CODE: 403

M136 ACAD

INITIALS: PN
DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|-----------------------------------|----------|---------------------------|---|----------------------|----|----|-----|
| 0 | 04/09/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120370B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 CANISTER DOLLY WELDMENT | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT B-595 | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | FLUOR CONTRACT NO. 8457 | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | CWBS NO. P06B | | | | |
| E. GARCIA | | 11-2-92 | | | | | |
| DRAWN | | | BLDG NO. 1 | | | | |
| L. SANVICTORES | | 11/25/91 | | | | | |
| CLASSIFICATION | | BY | INDEX NO. | | | | |
| NONE | | NOT REQD | | | | | |
| DRAWING NUMBER | | SHEET | | | OF | | REV |
| H-2-120370 | | 2 | | | 8 | | 0 |

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AFC
77 78 79 80

DISTRIBUTION CODE: 403


M137 ACAD

INITIALS: PN

DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-------------------------------|----------|---------------------------|--|-----------------------------------|-------------------------|----------------|-----------------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120370C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10B38</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002</p> <p>LIFTING TRUNNION WELDMENT</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA | | 11-3-92 | <p>PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT</p> | | | | |
| DESIGN ENGINEER R. CHOATE | | 11-3-92 | | | | | |
| CHECKED E. GARCIA | | 11-2-92 | | | | | |
| DRAWN D. SMITH | | | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | | | SCALE 1/1 | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120370 | | SHEET 3 | OF 8 | REV 0 |

B

A

ING INDEX

2

1


AFC
77 78 79 80

DISTRIBUTION CODE: 403

M138 ACAD

INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|-----------------------------------|-------------------------|---------------------------|---|-----------------------------------|-------------------------|----------------|-----------------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120370D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 CANISTER DOLLY TOP PLATE DETAIL | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE | | 11-3-92 | | | | | |
| DRAWING INDEX | CHECKED E. GARCIA | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN L. SANVICTORES | 2/28/92 | SCALE 1/2 | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT RECD | DRAWING NUMBER H-2-120370 | | SHEET 4 | OF 8 | REV 0 |

DISTRIBUTION CODE: 403


M139 ACAD

INITIALS: PN
DATE: 03-16-93

AFC
77 78 79 80

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | | | |
|------------------------|-----------------|---|--|--------------------|---------|----------------------|----------|----------|----|
| | | | | | | | | | |
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | | | | EG | RC | CD | NA |
| | | | | | | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | | | | APPROVAL INITIALS | | | |
| CADFILE | B120370E | | | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | | | | |
| REV | DATE | | | | | | | | |
| ERO | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | | | | |
| SIGNATURE | DATE | | | | | | | | |
| PROJ DIR | | TU-130-002 CANISTER DOLLY WHEEL MOUNTING DETAIL | | | | | | | |
| NA | | | | | | | | | |
| QA MGR | | | | | | | | | |
| NA | | | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | | | |
| NA | | | | | | | | | |
| PROJECT MGR | | HANFORD WASTE VITRIFICATION PLANT | | | | | | | |
| NA | | | | | | | | | |
| SYSTEMS MGR | | | | | | | | | |
| NA | | | | | | | | | |
| ENGINEERING MGR | | | | | | | | | |
| NA | | | | | | | | | |
| SUPERVISOR | | PROJECT TITLE | | | | | | | |
| C. DIVONA | 11-3-92 | | | | | | | | |
| DESIGN ENGINEER | | 8457 | | | | | | | |
| R. CHOATE | 11-3-92 | | | | | | | | |
| CHECKED | | PROJECT | | FLUOR CONTRACT NO. | | CWBS NO. | | | |
| E. GARCIA | 11-2-92 | B-595 | | 8457 | | P06B | | | |
| DRAWN | | SCALE | | BLDG NO. | | INDEX NO. | | | |
| L. SANVICTORES | 02/27/92 | 1/2 | | 1 | | | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | | | | SHEET | OF | REV | |
| NONE | NOT REQD | H-2-120370 | | | | 5 | 8 | 0 | |

ING INDEX

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| 2 | AFC |
| 77 78 79 80 | |


DISTRIBUTION CODE: 403

M140 ACAD

INITIALS: PN
DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/16/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|--|----------|---------------------------|---|-----------------------------------|-------------------------|----------------|-----------------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120370F | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE REV _____ DATE _____ ERO _____ | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | TU-130-002 CANISTER DOLLY COVER DETAIL | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA 11-3-92 | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE 11-3-92 | | | | | | | |
| CHECKED E. GARCIA 11-2-92 | | | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| DRAWN L. SANVICTORES 02/28/92 | | | SCALE 1/1 | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120370 | | SHEET 6 | OF 8 | REV 0 |

ING INDEX

2
AFC
77 78 79 80


DISTRIBUTION CODE: 403

M141 ACAD

1 INITIALS: PN
DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | |
|--|--------------------------------|--|--|----------------------------|------------------|---------|
| | | | | | | |
| 0 | 01/26/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA/NA |
| | | | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B120370G | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002</p> <p>LIFTING TRUNNION DETAILS</p> | | | | |
| REV _____ DATE _____ | | | | | | |
| ERO _____ | | | | | | |
| SIGNATURE | DATE | | | | | |
| PROJ DIR NA | | | | | | |
| QA MGR NA | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | |
| PROJECT MGR NA | | | | | | |
| SYSTEMS MGR NA | | | | | | |
| ENGINEERING MGR NA | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> | | 11-3-92 | | | | |
| ING INDEX | CHECKED E. GARCIA <i>EG</i> | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | |
| | DRAWN C. PEASE | 04/29/92 | SCALE 1/1 | BLDG NO. 1 | INDEX NO. | |
| CLASSIFICATION NONE | | BY NOT RECD | DRAWING NUMBER H-2-120370 | | SHEET 7 | OF 8 |
| | | | | | REV 0 | |

DISTRIBUTION CODE: 403

M142 ACAD


INITIALS: PN

DATE: 03-16-93

AFC
77 78 79 80

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 01/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|--|----------------------|----|----|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120370H | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 CANISTER DOLLY DETAILS | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT B-595 | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | FLUOR CONTRACT NO. 8457 | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | CWBS NO. P06B | | | | |
| E. GARCIA | | 11-2-92 | | | | | |
| DRAWN | | | SCALE SHOWN | | | | |
| D. SMITH | | 02/28/92 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER H-2-120370 | | | | |
| NONE | | NOT REQD | | | | | |
| | | | SHEET 8 | | | | |
| | | | | | | | |
| | | | OF 8 | | | | |
| | | | | | | | |
| | | | REV 0 | | | | |
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DISTRIBUTION CODE: 403

M143

ACAD


INITIALS: PN

DATE: 03-16-93

AFC
77 78 79 80

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3


| | | | | | | |
|-----------------------------------|----------|---|--|----------------------|-----------------------|----------|
| 0 | 01/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA |
| CADFILE | B120371A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 DOLLY RAILS OUTER RAIL | | | |
| PROJ DIR | | | | | | |
| NA | | | | | | |
| QA MGR | | | | | | |
| NA | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | |
| NA | | | | | | |
| PROJECT MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | |
| NA | | | | | | |
| SYSTEMS MGR | | | | | | |
| NA | | | | | | |
| ENGINEERING MGR | | | PROJECT B-595 | | | |
| NA | | | | | | |
| SUPERVISOR | | | FLUOR CONTRACT NO. 8457 | | | |
| C. DIVONA <i>CD</i> | | 11-3-92 | | | | |
| DESIGN ENGINEER | | | CWBS NO. P06B | | | |
| R. CHOATE <i>KBC</i> | | 11-3-92 | | | | |
| CHECKED | | | SCALE SHOWN | | | |
| E. GARCIA <i>EL</i> | | 11-2-92 | | | | |
| DRAWN | | | BLDG NO. 1 | | | |
| P. ASHLEY | | 12/26/91 | | | | |
| CLASSIFICATION | | BY | INDEX NO. 0 | | | |
| NONE | | NOT REQD | | | | |
| | | | DRAWING NUMBER H-2-120371 | | | |
| | | | SHEET 1 | | OF 4 | |
| | | | REV 0 | | | |

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APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | | |
|------------------------------|----------|------------|---|-------------------|----------------------|-----|----|----|
| 0 | | 01/66/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120371B | | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002 DOLLY RAILS INNER RAIL</p> | | | | | |
| REV _____ | | DATE _____ | | | | | | |
| ERO _____ | | | | | | | | |
| SIGNATURE | | DATE | | | | | | |
| PROJ DIR NA | | | | | | | | |
| QA MGR NA | | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | | |
| PROJECT MGR NA | | | | | | | | |
| SYSTEMS MGR NA | | | | | | | | |
| ENGINEERING MGR NA | | | | | | | | |
| SUPERVISOR C. DIVONA | | 11-3-92 | <p>PROJECT TITLE</p> <p>HANFORD WASTE VITRIFICATION PLANT</p> | | | | | |
| DESIGN ENGINEER R. CHOATE | | 11-3-92 | | | | | | |
| CHECKED E. GARCIA | | 11-2-92 | | | | | | |
| DRAWN P. ASHLEY | | 12-26-91 | | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | SHEET | OF | REV | | |
| NONE | | NOT REQD | H-2-120371 | 2 | 4 | 0 | | |

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ING INDEX

2

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| A | F | C |
| 77 | 78 | 79 80 |


DISTRIBUTION CODE: 403

M145 ACAD

INITIALS: PN
DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|------------------------|-----------------|--|--------------------|----------------------|----------|----|----|
| 0 | 6/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120371C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002 DOLLY RAILS OUTER RAILS</p> | | | | | |
| REV | DATE | | | | | | |
| ERO | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | <p>PROJECT TITLE</p> <p>HANFORD WASTE VITRIFICATION PLANT</p> | | | | | |
| C. DIVONA | 11-3-92 | | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | 11-3-92 | | | | | | |
| CHECKED | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | | |
| E. GARCIA | 11-2-92 | B-595 | 8457 | P06B | | | |
| DRAWN | | SCALE | BLDG NO. | INDEX NO. | | | |
| BOB HUSTON | 7-31-91 | 1/4 | 1 | | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | | |
| NONE | NOT REQD | H-2-120371 | 3 | 4 | 0 | | |

ING INDEX

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| A | F | C |
| 77 | 78 | 79 80 |

DISTRIBUTION CODE: 403


M146 ACAD

INITIALS: PN

DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|-----------------------------------|----------|---------------------------|--|----------------------|-------|----|-----|
| 0 | 01/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120371D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10B38 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 DOLLY RAILS OUTER RAIL | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT B-595 | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | FLUOR CONTRACT NO. 8457 | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | CWBS NO. P06B | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | BLDG NO. 1 | | | | |
| E. GARCIA | | 11-2-92 | | | | | |
| DRAWN | | | INDEX NO. 0 | | | | |
| P. ASHLEY | | 12-26-91 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120371 | | 4 | 4 | 0 |

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77 78 79 80

DISTRIBUTION CODE: 403


M147 ACAD

INITIALS: PN

DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|------------------------|----------|---------------------------|--|----------------------|----|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120372A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | TU-130-002 DIMENSIONAL RECORD DRAWING | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT B-595 | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | FLUOR CONTRACT NO. 8457 | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | CWBS NO. P06B | | | | |
| E. GARCIA | | 11-2-92 | | | | | |
| DRAWN | | | BLDG NO. 1 | | | | |
| P. ASHLEY | | 04/06/92 | | | | | |
| CLASSIFICATION | | BY | INDEX NO. 0 | | | | |
| NONE | | NOT REQD | | | | | |
| DRAWING NUMBER | | SHEET | | | OF | | REV |
| H-2-120372 | | 1 | | | 3 | | 0 |

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DISTRIBUTION CODE: 403

M148 ACAD

1 INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

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|------------------------|----------|---------------------------|--|----------------------|-----------|----|----|
| 0 | 06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120372B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | TU-130-002 DIMENSIONAL RECORD DRAWING | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| E. GARCIA | | 11-2-92 | B-595 | 8457 | P06B | | |
| DRAWN | | | SCALE | BLDG NO. | INDEX NO. | | |
| P. ASHLEY | | 04/06/92 | NONE | 1 | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | | |
| NONE | NOT REQD | H-2-120372 | 2 | 3 | 0 | | |


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ING INDEX

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

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|-----------------------------------|---------------------|---------------------------|--|----------------------|-------------|----------|----------|
| 0 | 01/09/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120372C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 DIMENSIONAL RECORD DRAWING | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA <i>CJD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| ING INDEX | CHECKED | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| | E. GARCIA <i>EG</i> | 11-2-92 | B-595 | 8457 | P06B | | |
| | DRAWN | | SCALE | BLDG NO. | INDEX NO. | | |
| | P. ASHLEY | 04/07/92 | NONE | 1 | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120372 | | 3 | 3 | 0 |

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DISTRIBUTION CODE: 403

M150 ACAD


INITIALS: PN

DATE: 03-16-93

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77 78 79 80

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|-----------------------------------|----------|---------------------------|---|----------------------|----|----|----|
| 0 | 6/6/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120374A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 CAROUSEL ASSEMBLY | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | TU-130-002 CAROUSEL ASSEMBLY | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT B-595 | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | FLUOR CONTRACT NO. 8457 | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | CWBS NO. P06B | | | | |
| E. GARCIA | | 11-2-92 | | | | | |
| DRAWN | | | SCALE 1/8 | | | | |
| P. ASHKEY | | 01-30-92 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER H-2-120374 | | | | |
| NONE | | NOT RECD | | | | | |
| | | | SHEET 1 | | | | |
| | | | OF 4 | | | | |
| | | | REV 0 | | | | |

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7 78 79 80

DISTRIBUTION CODE: 403

M151


ACAD

INITIALS: PN

DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | |
|------------------------|----------------|--|--------------------|----------------------|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA |
| | | | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B120374B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002 CAROUSEL ASSEMBLY</p> | | | | |
| REV | DATE | | | | | |
| ERO | | | | | | |
| SIGNATURE | DATE | | | | | |
| PROJ DIR | | | | | | |
| QA MGR | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | |
| PROJECT MGR | | | | | | |
| SYSTEMS MGR | | | | | | |
| ENGINEERING MGR | | | | | | |
| SUPERVISOR | | <p>PROJECT TITLE</p> <p>HANFORD WASTE VITRIFICATION PLANT</p> | | | | |
| C. DIVONA | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | | | | |
| R. CHOATE | 11-3-92 | | | | | |
| NG INDEX | CHECKED | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| | E. GARCIA | B-595 | 8457 | P06B | | |
| | DRAWN | SCALE | BLDG NO. | INDEX NO. | | |
| | P. ASHLEY | 1/8 | 1 | | | |
| | CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV |
| | NONE | NOT REQD | H-2-120374 | 2 | 4 | 0 |

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DISTRIBUTION CODE: 403

M152 ACAD

INITIALS: PN
DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|---|----------|---------------------------|---|----------------------|----|-----|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120374C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10B38</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002 CAROUSEL DETAILS</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11-3-92 | <p>PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT</p> | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| CHECKED E. GARCIA <i>EL</i> | | 11-2-92 | | | | | |
| DRAWN P. ASHLEY | | 01-30-92 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | SHEET | OF | REV | |
| NONE | | NOT REQD | H-2-120374 | 3 | 4 | 0 | |

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DISTRIBUTION CODE: 403

M153


ACAD

INITIALS: PN

DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3


| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|----------------------|---|---|-----------------------------------|-------------------------|----------------|-----------------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120374D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10B38 | | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 CAROUSEL SUB-WELDMENT | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE | | 11-3-92 | | | | | |
| ING INDEX | CHECKED E. GARCIA | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN P. ASHLEY | 01-30-92 | SCALE 1/4 | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT REOD | DRAWING NUMBER H-2-120374 | | SHEET 4 | OF 4 | REV 0 |

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APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

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|---|--------------------------------|---------------------------|--|-----------------------------------|-------------------------|----------------|-----------------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120375A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | TU-130-002 CANISTER LID CLOSURE SPRT ASSY PARTS LIST & NOTES | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CW</i> | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| ING INDEX | CHECKED E. GARCIA <i>EL</i> | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN P. ASHLEY | 12-05-91 | SCALE 1/4 | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT RECD | DRAWING NUMBER H-2-120375 | | SHEET 1 | OF 2 | REV 0 |

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

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|-----------------------------------|----------|---------------------------|---|----------------------|-----------|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120375B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | TU-130-002 CANISTER LID CLOSURE SUPPORT DET | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT B-595 | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | FLUOR CONTRACT NO. | | CWBS NO. | | |
| E. GARCIA | | 11-2-92 | 8457 | | P06B | | |
| DRAWN | | | BLDG NO. | | INDEX NO. | | |
| P. ASHLEY | | 12-05-91 | 1 | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120375 | | 2 | 2 | 0 |

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DISTRIBUTION CODE: 403

M156 ACAD

1 INITIALS: PN
DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

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|------------------------|----------|---------------------------|---|----------------------|-----------------------------|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120376A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002 LIFTING TRUNNION WELDMENT PARTS LIST & NOTES</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | <p>PROJECT TITLE</p> <p>HANFORD WASTE VTRIFICATION PLANT</p> | | | | |
| C. DIVONA | | | | | | | |
| 11-3-92 | | | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | | <p>PROJECT</p> <p>B-595</p> | | | | |
| 11-3-92 | | | | | | | |
| CHECKED | | | | | | | |
| E. GARCIA | | | | | | | |
| 11-2-92 | | | <p>FLUOR CONTRACT NO.</p> <p>8457</p> | | <p>CWBS NO.</p> <p>P06B</p> | | |
| DRAWN | | | <p>SCALE</p> <p>1/8</p> | | <p>BLDG NO.</p> <p>1</p> | | |
| P. ASHLEY | | | <p>INDEX NO.</p> | | | | |
| 11-07-91 | | | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120376 | | 1 | 2 | 0 |

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DISTRIBUTION CODE: 403

M157 ACAD

INITIALS: PN

DATE: 03-16-93

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SCALE : 1/4

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APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

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|------------------------|----------|---------------------------|--|----------------------|-----------|-------|----|
| | | | | | | | |
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120376B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-B6RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | TU-130-002 LIFTING TRUNNION DETAILS | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA <i>C/D</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT B-595 | | | | |
| R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| CHECKED | | | FLUOR CONTRACT NO. | | CWBS NO. | | |
| E. GARCIA <i>91</i> | | 11-2-92 | 8457 | | P06B | | |
| DRAWN | | | BLDG NO. | | INDEX NO. | | |
| P. ASHLEY | | 11-19-91 | 1 | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | | SHEET | OF |
| NONE | | NOT REQD | H-2-120376 | | | 2 | 2 |
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INITIALS: PN


DATE: 03-16-93

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APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|------------------------|-----------------------|---------------------------|--|----------------------|-------------|----------|----------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120377A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002 CART DR MOT ASSY PARTS LIST & NOTES</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | <p>PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT</p> | | | | |
| C. DIVONA (P) 11-3-92 | | | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE (P) 11-3-92 | | | | | | | |
| DRAWING INDEX | CHECKED | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| | E. GARCIA (P) 11-2-92 | | B-595 | 8457 | P06B | | |
| | DRAWN | | SCALE | BLDG NO. | INDEX NO. | | |
| | S. REGACHO 01-13-92 | | 1/4 | 1 | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120377 | | 1 | 5 | 0 |

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DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|-------------------------------|----------------------|---------------------------|--|-----------------------------------|-------------------------|----------------|-----------------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120377B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | TU-130-002 CART DRIVE MOTOR WELDMENT | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA | | 11-3-92 | HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE | | 11-3-92 | | | | | |
| NG INDEX | CHECKED E. GARCIA | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN S. REGACHO | 01-09-92 | SCALE 1/4 | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT RECD | DRAWING NUMBER H-2-120377 | | SHEET 2 | OF 5 | REV 0 |

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INITIALS: PN

DATE: 03-16-93

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APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3


| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|--|----------------------|----|----|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120377C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 CART DRIVE MOTOR WELDMENT DETAILS | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT B-595 | | | | |
| C. DIVONA <i>CPD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | FLUOR CONTRACT NO. 8457 | | | | |
| R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| CHECKED | | | CWBS NO. P06B | | | | |
| E. GARCIA <i>EL</i> | | 11-2-92 | | | | | |
| DRAWN | | | BLDG NO. 1 | | | | |
| S. REGACHO | | 12-31-91 | | | | | |
| CLASSIFICATION | | BY | INDEX NO. 0 | | | | |
| NONE | | NOT REQD | | | | | |
| | | | DRAWING NUMBER H-2-120377 | | | | |
| | | | | | | | |
| | | | SHEET 3 | | | | |
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| | | | OF 5 | | | | |
| | | | | | | | |
| | | | REV 0 | | | | |
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QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|--|--------------------------------|---------------------------|--|-----------------------------------|-------------------------|----------------|-----------------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120377D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE | Richland Field Office DE - AC06-B6RL10838 | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | TU-130-002 CART DRIVE MOTOR SPLASH GUARD ASSY | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> | | 11-3-92 | PROJECT TITLE HANFORD WASTE VTRIFICATION PLANT | | | | |
| ING INDEX | CHECKED E. GARCIA <i>EG</i> | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN S. REGACHO | 01-08-92 | SCALE 1/2 | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120377 | | SHEET 4 | OF 5 | REV 0 |

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QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|------------------------|----------|---------------------------|--|----------------------|-----------|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120377E | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002 CART DRIVE MOTOR SPLASH GUARD DET</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR | | | | | | | |
| DA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | <p>PROJECT TITLE</p> <p>HANFORD WASTE VTRIFICATION PLANT</p> | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| E. GARCIA | | 11-2-92 | B-595 | 8457 | P06B | | |
| DRAWN | | | SCALE | BLDG NO. | INDEX NO. | | |
| S. REGACHO | | 12-31-91 | 1/2 | 1 | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120377 | | 5 | 5 | 0 |

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|-----------------------------------|----------|---------------------------|---|----------------------|-------|----|-----|
| 0 | 01/66/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120378A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 SPIDER DRIVE ASSEMBLY PARTS LIST & NOTES | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT B-595 | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | FLUOR CONTRACT NO. 8457 | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | CWBS NO. P06B | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | BLDG NO. 1 | | | | |
| E. GARCIA | | 11-2-92 | | | | | |
| DRAWN | | | INDEX NO. | | | | |
| P. ASHLEY | | 1-6-92 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120378 | | 1 | 7 | 0 |

NG INDEX

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DATE: 03-16-93

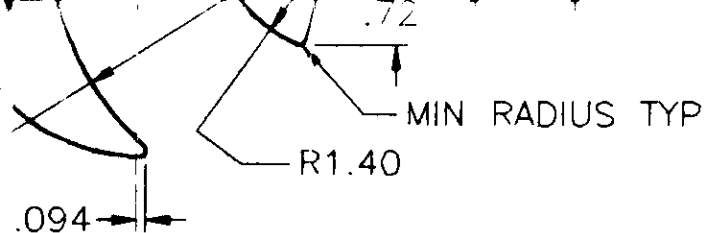
APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

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|-------------------------|------------------------|---------------------------|---|----------------------|-----------|----|-----|
| 0 | C-1/166/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120378B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002 WELDMENT DRIVE BASE & SUB-WELDMENT</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | <p>PROJECT TITLE</p> <p>HANFORD WASTE VITRIFICATION PLANT</p> | | | | |
| C. DIVONA (CW) 11-3-92 | | | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE (RSC) 11-3-92 | | | | | | | |
| CHECKED | E. GARCIA (JL) 11-2-92 | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| | | | B-595 | 8457 | P06B | | |
| | | | SCALE | BLDG NO. | INDEX NO. | | |
| DRAWN | | | SHOWN | 1 | | | |
| P. ASHLEY | | 1-6-92 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120378 | | 2 | 7 | 0 |

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QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/16/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|--|----------------------|----------------------|----|-----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120378C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 SPIDER DRIVE DETAILS | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | TU-130-002 SPIDER DRIVE DETAILS | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED | | | | | | | |
| E. GARCIA | | 11-2-92 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| DRAWN | | | SCALE 1/2 | | BLDG NO. 1 | | |
| P. ASHLEY | | 1-6-92 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120378 | | 3 | 7 | 0 |

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DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

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|------------------------|----------|---------------------------|--|----------------------|----------|----|-----------|--------------------------------|----------------------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA | | |
| | | | NA | NA | NA | NA | NA | | |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | | | |
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| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE -- ACD6-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002 SPIDER DRIVE RAILS</p> | | | | | | |
| REV _____ DATE _____ | | | | | | | | | |
| ERO _____ | | | | | | | | | |
| SIGNATURE | | DATE | | | | | | | |
| PROJ DIR | | | | | | | | | |
| QA MGR | | | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | | | |
| PROJECT MGR | | | | | | | | | |
| SYSTEMS MGR | | | | | | | | | |
| ENGINEERING MGR | | | | | | | | | |
| SUPERVISOR | | | <p>PROJECT TITLE</p> <p>HANFORD WASTE VITRIFICATION PLANT</p> | | | | | | |
| C. DIVONA <i>C/D</i> | | | | | | | | | |
| 11-3-92 | | | | | | | | | |
| DESIGN ENGINEER | | | | | | | | | |
| R. CHOATE <i>R/C</i> | | | <p>PROJECT</p> <p>B-595</p> | | | | | FLUOR CONTRACT NO. <p>8457</p> | CWBS NO. <p>P06B</p> |
| 11-2-92 | | | | | | | | | |
| CHECKED | | | SCALE | | BLDG NO. | | INDEX NO. | | |
| E. GARCIA <i>E/G</i> | | | 1/2 | | 1 | | | | |
| DRAWN | | | <p>DRAWING NUMBER</p> <p>H-2-120378</p> | | | | | | |
| P. ASHLEY | | | | | | | | | |
| 1-6-92 | | | SHEET | | OF | | REV | | |
| CLASSIFICATION | | | 4 | | 7 | | 0 | | |
| NONE | | | | | | | | | |
| NOT REOD | | | | | | | | | |


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QUALITY LEVEL II
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| 0 | 07/16/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|--|----------|---------------------------|---|----------------------|-------|----|-----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120378E | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p align="center">U.S. DEPARTMENT OF ENERGY</p> <p align="center">Richland Field Office DE - AC06-B6RL10838</p> <p align="center"> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p align="center">TU-130-002 SPIDER DRIVE DETAILS</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11-3-92 | <p align="center">PROJECT TITLE HANFORD WASTE VTRIFICATION PLANT</p> | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> | | 11-3-92 | | | | | |
| CHECKED E. GARCIA <i>EG</i> | | 11-2-92 | | | | | |
| DRAWN P. ASHLEY | | 1-6-92 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120378 | | 5 | 7 | 0 |

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DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

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| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|---|----------------------|----|----|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
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| REV _____ DATE _____ ERD _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | TU-130-001 SPIDER DRIVE DETAILS | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT B-595 FLUOR CONTRACT NO. 8457 CWBS NO. P06B | | | | |
| R. CHOATE <i>RC</i> | | 11-3-92 | | | | | |
| CHECKED | | | SCALE 1/2 BLDG NO. 1 INDEX NO. | | | | |
| E. GARCIA <i>EG</i> | | 11-2-92 | | | | | |
| DRAWN | | | DRAWING NUMBER H-2-120378 SHEET 6 OF 7 REV 0 | | | | |
| P. ASHLEY | | 1-6-92 | | | | | |
| CLASSIFICATION | | BY | | | | | |
| NONE | | NOT REQD | | | | | |

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QUALITY LEVEL II
SAFETY CLASS 3

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| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120378G | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE REV _____ DATE _____ ERO _____ | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | TU-130-002 SPIDER DRIVE DETAILS | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA 11-3-92 | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE 11-3-92 | | | | | | | |
| NG INDEX | CHECKED E. GARCIA 11-2-92 | | | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | |
| | DRAWN P. ASHLEY 1-6-92 | | | SCALE 1/1 | BLDG NO. 1 | INDEX NO. | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120378 | | SHEET 7 | OF 7 | REV 0 |

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DISTRIBUTION CODE: 403

M170 ACAD

INITIALS: PN
DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|-----------------------------------|----------|---------------------------|--|----------------------|----|----|----|
| 0 | 04/10/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
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| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 DRAIN TURNTABLE CART ASSY, PARTS LIST AND NOTES | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | FLUOR CONTRACT NO. | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | CWBS NO. | | | | |
| E. GARCIA | | 11-2-92 | | | | | |
| DRAWN | | | BLDG NO. | | | | |
| D. SMITH | | 03/24/92 | | | | | |
| CLASSIFICATION | | | INDEX NO. | | | | |
| NONE | | | | | | | |
| BY | | | DRAWING NUMBER | | | | |
| NOT RECD | | | | | | | |
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DATE: 03-16-93


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QUALITY LEVEL II
SAFETY CLASS 3

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|---|--------------------------------|---------------------------|--|-----------------------------------|-------------------------|----------------|-----------------|
| 0 | 04/16/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120379B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | TU-130-002 DRAIN TURNTABLE CART TOP VIEW | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | | 11-3-92 | PROJECT TITLE | | | | |
| NG INDEX | CHECKED E. GARCIA <i>EG</i> | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN D. SMITH | 03/24/92 | SCALE SHOWN | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT RECD | DRAWING NUMBER H-2-120379 | | SHEET 2 | OF 3 | REV 0 |


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QUALITY LEVEL II

SAFETY CLASS 3

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|--|----------|---------------------------|---|----------------------|-------|----|-----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
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| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002 DRAIN TURNTABLE CART SIDE VIEW</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> | | 11-3-92 | | | | | |
| CHECKED E. GARCIA <i>EG</i> | | 11-2-92 | | | | | |
| DRAWN D. SMITH | | 03/30/92 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT RECD | H-2-120379 | | 3 | 3 | 0 |

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INITIALS: PN

DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

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|------------------------|----------|--|--------------------|----------------------|-----|----|
| | | | | | | |
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA |
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| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10B38</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002 CART SPIDER DRIVE SPRT ASSEMBLY</p> | | | | |
| REV | DATE | | | | | |
| ERO | | | | | | |
| SIGNATURE | DATE | | | | | |
| PROJ DIR | | | | | | |
| QA MGR | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | |
| PROJECT MGR | | | | | | |
| SYSTEMS MGR | | | | | | |
| ENGINEERING MGR | | | | | | |
| SUPERVISOR | | <p>PROJECT TITLE</p> <p>HANFORD WASTE VITRIFICATION PLANT</p> | | | | |
| C. DIVONA | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | | | | |
| R. CHOATE | 11-3-92 | | | | | |
| CHECKED | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| E. GARCIA | 11-2-92 | B-595 | 8457 | P06B | | |
| DRAWN | | SCALE | BLDG NO. | INDEX NO. | | |
| D. SMITH | 03/24/92 | NONE | 1 | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | |
| NONE | NOT REQD | H-2-120380 | 1 | 2 | 0 | |


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APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

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|-----------------------------------|----------|---------------------------|--|----------------------|----|----|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120380B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10B38 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 CART SPIDER DRIVE SUPPORT DETAILS | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED | | | | | | | |
| E. GARCIA | | 11-2-92 | FLUOR CONTRACT NO. 8457 | | | | |
| DRAWN | | | | | | | |
| C. PEASE | | 04/08/92 | BLDG NO. 1 | | | | |
| CLASSIFICATION | | | | | | | |
| NONE | | NOT REQD | DRAWING NUMBER H-2-120380 | | | | |
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QUALITY LEVEL II
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| 0 | 04/16/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|---|----------------------|--------------------|----|-----------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
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| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10B38 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 CART BASE PARTS LIST & NOTES | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR | | | | | | | |
| DESIGN ENGINEER | | | | | | | |
| C. DIVONA | | 11-3-92 | PROJECT | | FLUOR CONTRACT NO. | | CWBS NO. |
| R. CHOATE | | 11-3-92 | B-595 | | 8457 | | P06B |
| CHECKED | | | SCALE | | BLDG NO. | | INDEX NO. |
| E. GARCIA | | 11-2-92 | 1/8 | | 1 | | |
| DRAWN | | | DRAWING NUMBER | | SHEET | OF | REV |
| D. RUFENACHT | | 03/17/92 | H-2-120381 | | 1 | 23 | 0 |
| CLASSIFICATION | | BY | | | | | |
| NONE | | NOT RECD | | | | | |

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INITIALS: PN
DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

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31

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA |
|------------------------|----------|---|-------------------|----------------------|----|-----|
| | | | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B120381B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | <p align="center">U.S. DEPARTMENT OF ENERGY</p> <p align="center">Richland Field Office DE - AC06-86RL10838</p> <p align="center"> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p align="center">TU-130-002 CART BASE ASSEMBLY</p> | | | | |
| REV | DATE | | | | | |
| ERO | | | | | | |
| SIGNATURE | DATE | | | | | |
| PROJ DIR | | | | | | |
| QA MGR | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | |
| PROJECT MGR | | | | | | |
| SYSTEMS MGR | | | | | | |
| ENGINEERING MGR | | | | | | |
| SUPERVISOR | | | | | | |
| C. DIVONA | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | | | | |
| R. CHOATE | 11-3-92 | | | | | |
| CHECKED | | | | | | |
| E. GARCIA | 11-2-92 | | | | | |
| DRAWN | | | | | | |
| D. RUFENACHT | 03/16/92 | | | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | NOT REQD | H-2-120381 | | 2 | 23 | 0 |

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INITIALS: PN
DATE: 03-16-93


APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

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| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA |
| CADFILE | B120381C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002 CART BASE ASSEMBLY</p> | | | | |
| REV | DATE | | | | | |
| ERO | | | | | | |
| SIGNATURE | DATE | | | | | |
| PROJ DIR | | | | | | |
| QA MGR | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | |
| PROJECT MGR | | | | | | |
| SYSTEMS MGR | | | | | | |
| ENGINEERING MGR | | | | | | |
| SUPERVISOR | | | <p>PROJECT TITLE</p> <p>HANFORD WASTE VITRIFICATION PLANT</p> | | | |
| C. DIVONA | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | | | | |
| R. CHOATE | 11-3-92 | | | | | |
| CHECKED | | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | |
| E. GARCIA | 11-2-92 | | B-595 | 8457 | P06B | |
| DRAWN | | | SCALE | BLDG NO. | INDEX NO. | |
| D. RUFENACHT | 03/17/92 | | 1/8 | 1 | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | |
| NONE | NOT REOD | H-2-120381 | 3 | 23 | 0 | |

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QUALITY LEVEL II
SAFETY CLASS 3

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| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
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| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | TU-130-002 CART BASE ASSEMBLY | | | | |
| SUPERVISOR C. DIVONA (P) 11-3-92 | | | | | | | |
| DESIGN ENGINEER R. CHOATE (P) 11-3-92 | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| CHECKED E. GARCIA (P) 11-2-92 | | | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| DRAWN D. RUFENACHT 03/17/92 | | | SCALE 1/8 | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT REOD | DRAWING NUMBER H-2-120381 | | SHEET 4 | OF 23 | REV 0 |

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INITIALS: PN
DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

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|------------------------|--------------------|---|-------------------|----------------------|----|----|----|----------------|--------------------|----------------|-------|------------|------|-------|----------|------------|-----|----|---|
| 0 | 0-1/100/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA | | | | | | | | | | | | |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | | | | | | | | | | | | | |
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| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10B38</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002 CART BASE WELDMENT</p> | | | | | | | | | | | | | | | | | |
| REV | DATE | | | | | | | | | | | | | | | | | | |
| ERO | | | | | | | | | | | | | | | | | | | |
| SIGNATURE | DATE | | | | | | | | | | | | | | | | | | |
| PROJ DIR | | | | | | | | | | | | | | | | | | | |
| QA MGR | | | | | | | | | | | | | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | | | | | | | | | | | | | |
| PROJECT MGR | | | | | | | | | | | | | | | | | | | |
| SYSTEMS MGR | | | | | | | | | | | | | | | | | | | |
| ENGINEERING MGR | | | | | | | | | | | | | | | | | | | |
| SUPERVISOR | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | | | | | | | | | | | | | | |
| C. DIVONA | 11-3-92 | | | | | | | | | | | | | | | | | | |
| DESIGN ENGINEER | | | | | | | | | | | | | | | | | | | |
| R. CHOATE | 11-3-92 | <table border="1"> <tr> <td>PROJECT</td> <td>FLUOR CONTRACT NO.</td> <td>CWBS NO.</td> </tr> <tr> <td>B-595</td> <td>8457</td> <td>P06B</td> </tr> <tr> <td>SCALE</td> <td>BLDG NO.</td> <td>INDEX NO.</td> </tr> <tr> <td>1/8</td> <td>1</td> <td></td> </tr> </table> | | | | | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | B-595 | 8457 | P06B | SCALE | BLDG NO. | INDEX NO. | 1/8 | 1 | |
| PROJECT | FLUOR CONTRACT NO. | | | | | | | CWBS NO. | | | | | | | | | | | |
| B-595 | 8457 | | | | | | | P06B | | | | | | | | | | | |
| SCALE | BLDG NO. | INDEX NO. | | | | | | | | | | | | | | | | | |
| 1/8 | 1 | | | | | | | | | | | | | | | | | | |
| CHECKED | | | | | | | | | | | | | | | | | | | |
| E. GARCIA | 11-2-92 | <table border="1"> <tr> <td>DRAWING NUMBER</td> <td>SHEET</td> <td>OF</td> <td>REV</td> </tr> <tr> <td>H-2-120381</td> <td>5</td> <td>23</td> <td>0</td> </tr> </table> | | | | | | DRAWING NUMBER | SHEET | OF | REV | H-2-120381 | 5 | 23 | 0 | | | | |
| DRAWING NUMBER | SHEET | | | | | | | OF | REV | | | | | | | | | | |
| H-2-120381 | 5 | | | | | | | 23 | 0 | | | | | | | | | | |
| DRAWN | | | | | | | | | | | | | | | | | | | |
| D. RUFENACHT | 03/17/92 | <table border="1"> <tr> <td>CLASSIFICATION</td> <td>BY</td> <td>DRAWING NUMBER</td> <td>SHEET</td> <td>OF</td> <td>REV</td> </tr> <tr> <td>NONE</td> <td>NOT REQD</td> <td>H-2-120381</td> <td>5</td> <td>23</td> <td>0</td> </tr> </table> | | | | | | CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | NONE | NOT REQD | H-2-120381 | 5 | 23 | 0 |
| CLASSIFICATION | BY | | | | | | | DRAWING NUMBER | SHEET | OF | REV | | | | | | | | |
| NONE | NOT REQD | | | | | | | H-2-120381 | 5 | 23 | 0 | | | | | | | | |
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DATE: 03-16-93

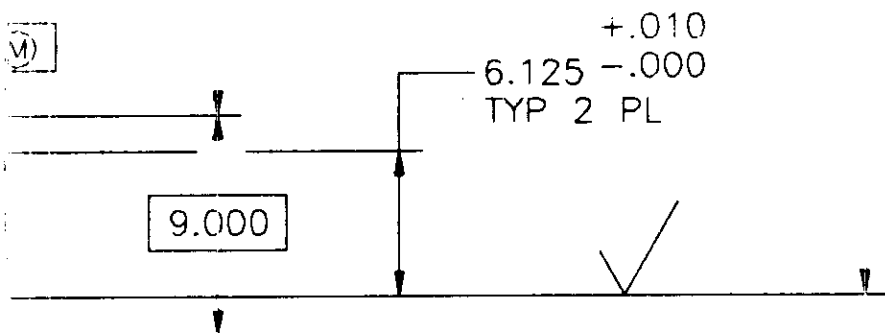
APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/10/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|---|----------------------|----|----|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120381F | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE -- AC06--86RL10838 | | | | |
| REV _____ DATE _____ ERD _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | TU-130-002 CART BASE WELDMENT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA <i>[Signature]</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT B-595 FLUOR CONTRACT NO. 8457 CWBS NO. P06B | | | | |
| R. CHOATE <i>[Signature]</i> | | 11-3-92 | | | | | |
| CHECKED | | | SCALE 1/8 BLDG NO. 1 INDEX NO. | | | | |
| E. GARCIA <i>[Signature]</i> | | 11-2-92 | | | | | |
| DRAWN | | | SHEET 6 OF 23 REV 0 | | | | |
| D. RUFENACHT | | 03/17/92 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | | | |
| NONE | | NOT REQD | H-2-120381 | | | | |

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APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/10/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA |
|------------------------------|------------------------|---|------------------------------|----------------------|------------|----------|
| | | | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B120381G | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002 CART BASE MACHINING</p> | | | | |
| REV _____ DATE _____ | | | | | | |
| ERO _____ | | | | | | |
| SIGNATURE | DATE | | | | | |
| PROJ DIR NA | | | | | | |
| QA MGR NA | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | |
| PROJECT MGR NA | | | | | | |
| SYSTEMS MGR NA | | | | | | |
| ENGINEERING MGR NA | | | | | | |
| SUPERVISOR C. DIVONA | 11-3-92 | PROJECT TITLE | | | | |
| DESIGN ENGINEER R. CHOATE | 11-3-92 | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NG INDEX | CHECKED E. GARCIA | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN D. RUFENACHT | SCALE 1/8 | BLDG NO. 1 | INDEX NO. | | |
| | CLASSIFICATION NONE | BY NOT REOD | DRAWING NUMBER H-2-120381 | | SHEET 7 | OF 23 |
| | | | | | REV 0 | |

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|---|----------|---------------------------|--|----------------------|--------------------------------|----|----------------------|
| 0 | 04/16/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120381H | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10B38 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | TU-130-002 CART BASE BEAM WELDMENT | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR C. DIVONA <i>CW</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED E. GARCIA <i>EL</i> | | 11-2-92 | | | | | |
| DRAWN D. RUFENACHT | | 03/17/92 | SCALE SHOWN | | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120381 | | 8 | 23 | 0 |


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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | | |
|------------------------------------|----------|---------------------------|--|------------------------|--------------------------------|------------------------|------------------|
| 0 | 04/10/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120381J | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | TU-130-002 CART BASE BEAM WELDMENT | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR C. DIVONA (C/D) | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE (RBC) | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED E. GARCIA (EG) | | 11-2-92 | | | | | |
| DRAWN D RUFENACHT | | 04/15/92 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| CLASSIFICATION NONE | | BY NOT REQD | SCALE SHOWN | | BLDG NO. 1 | | INDEX NO. |
| DRAWING NUMBER H-2-120381 | | SHEET 9 | | OF 23 | | REV 0 | |

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M184 ACAD

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INITIALS: PN
DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

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|------------------------|-----------|--|--|----------------------|----|-----|----|
| 0 | C4/106/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120381K | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY | | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | Richland Field Office DE - AC06-86RL10838 | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 CART BASE WELDMENT | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | PROJECT TITLE | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT | | | | |
| C. DIVONA <i>CWD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | FLUOR CONTRACT NO. | | | | |
| R. CHOATE <i>RKC</i> | | 11-3-92 | | | | | |
| CHECKED | | | CWBS NO. | | | | |
| E. GARCIA <i>EL</i> | | 11-2-92 | | | | | |
| DRAWN | | | BLDG NO. | | | | |
| D. RUFENACHT | | 04/03/92 | | | | | |
| CLASSIFICATION | | BY | INDEX NO. | | | | |
| NONE | | NOT REQD | | | | | |
| DRAWING NUMBER | | SHEET | | OF | | REV | |
| H-2-120381 | | 10 | | 23 | | 0 | |

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1 INITIALS: PN
DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|-----------------------------------|-----------------------|---------------------------|---|-----------------------------------|-------------------------|-----------------|-----------------|
| 0 | 04/100/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120381L | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 CART BASE DETAILS | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE | | 11-3-92 | | | | | |
| DRAWING INDEX | CHECKED E. GARCIA | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN D. RUFENACHT | 04/03/92 | SCALE 1/1 | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120381 | | SHEET 11 | OF 23 | REV 0 |

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INITIALS: PN
DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|------------------------|----------|---------------------------|---|----------------------|-------|----|-----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120381M | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-B6RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 CART BASE SUPPORT RAILS | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT B-595 | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | FLUOR CONTRACT NO. 8457 | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | CWBS NO. P06B | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | BLDG NO. 1 | | | | |
| E. GARCIA | | 11-2-92 | | | | | |
| DRAWN | | | INDEX NO. 0 | | | | |
| D. RUFENACHT | | 04/09/92 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT RECD | H-2-120381 | | 12 | 23 | 0 |

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INITIALS: PN
DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|---|--------------------------------|---------------------------|--|-----------------------------------|-------------------------|----|----|
| 0 | 04/16/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120381N | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-B6RL10B38 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | TU-130-002 CART BASE SUPPORT RAILS | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CW</i> | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE <i>RSC</i> | | 11-3-92 | | | | | |
| DRAWING INDEX | CHECKED E. GARCIA <i>EL</i> | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN D. RUFENACHT | 04/09/92 | SCALE SHOWN | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | | |
| NONE | NOT RECD | H-2-120381 | 13 | 23 | 0 | | |

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INITIALS: PN

DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | | |
|------------------------|------------------------|--|----------------------|--|----|--------------------------------|----|
| 0 | 04/16/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120381P | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | | |
| REV | DATE | | | | | | |
| ERO | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR | NA | TU-130-002 CART BASE SUPPORT RAIL DETAIL | | | | | |
| QA MGR | NA | | | | | | |
| INDEPENDENT SAFETY MGR | NA | | | | | | |
| PROJECT MGR | NA | | | | | | |
| SYSTEMS MGR | NA | | | | | | |
| ENGINEERING MGR | NA | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | | |
| SUPERVISOR | C. DIVONA (CP) 11-3-92 | | | | | | |
| DESIGN ENGINEER | R. CHOATE 11-3-92 | PROJECT B-595 | | | | | |
| CHECKED | E. GARCIA 11-2-92 | | | | | | |
| DRAWN | D. RUFENACHT 04/03/92 | SCALE 1/4 | | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | |
| CLASSIFICATION | | BY | | DRAWING NUMBER | | SHEET | OF |
| NONE | | NOT REQD | | H-2-120381 | | 14 | 23 |
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INITIALS: PN

DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

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|--|--------------------------------|---------------------------|---|-----------------------------------|-------------------------|-----------------|-----------------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120381R | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE REV _____ DATE _____ ERO _____ | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| DA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | TU-130-002 CART BASE DETAILS | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> | | | | | | | |
| DRAWING INDEX | CHECKED E. GARCIA <i>EG</i> | 11-2-92 | PROJECT 8-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN D. RUFENACHT | 03/26/92 | SCALE SHOWN | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT RECD | DRAWING NUMBER H-2-120381 | | SHEET 15 | OF 23 | REV 0 |

DISTRIBUTION CODE: 403


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INITIALS: PN
DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|------------------------|----------|---|--|----------------------|----|----|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120381S | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | | |
| SIGNATURE | | | | | | | |
| PROJ DIR | | | TU-130-002 CART BASE DETAILS | | | | |
| NA | | | | | | | |
| DA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT B-595 | | | | |
| C. DIVONA <i>CW</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | FLUOR CONTRACT NO. 8457 | | | | |
| R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| CHECKED | | | CWBS NO. P06B | | | | |
| E. GARCIA <i>YK</i> | | 11-2-92 | | | | | |
| DRAWN | | | SCALE 1/4 | | | | |
| D. RUFENACHT | | 03/26/92 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER H-2-120381 | | | | |
| NONE | | NOT REQD | | | | | |
| | | | SHEET 16 | | | | |
| | | | OF 23 | | | | |
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INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993


| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA/NA |
|------------------------|----------|---|-------------------|----------------------|----|-------|
| | | | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B120381T | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | <p align="center">U.S. DEPARTMENT OF ENERGY</p> <p align="center">Richland Field Office DE - AC06-B6RL10838</p> <p align="center">  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION </p> <p align="center">TU-130-002 CART BASE DETAILS</p> | | | | |
| REV | DATE | | | | | |
| ERO | | | | | | |
| SIGNATURE | DATE | | | | | |
| PROJ DIR | | | | | | |
| QA MGR | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | |
| PROJECT MGR | | | | | | |
| SYSTEMS MGR | | | | | | |
| ENGINEERING MGR | | | | | | |
| SUPERVISOR | | | | | | |
| C. DIVONA | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | | | | |
| R. CHOATE | 11-3-92 | | | | | |
| CHECKED | | | | | | |
| E. GARCIA | 11-2-92 | | | | | |
| DRAWN | | | | | | |
| D. RUFENACHT | 03/27/92 | | | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | NOT REQD | H-2-120381 | | 17 | 23 | 0 |

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APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|------------------------|----------|---------------------------|--|----------------------|--------------------------------|----|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120381U | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR | | NA | | | | | |
| QA MGR | | NA | TU-130-002 CART BASE DETAILS | | | | |
| INDEPENDENT SAFETY MGR | | NA | | | | | |
| PROJECT MGR | | NA | | | | | |
| SYSTEMS MGR | | NA | | | | | |
| ENGINEERING MGR | | NA | | | | | |
| SUPERVISOR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT B-595 | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| E. GARCIA | | 11-2-92 | SCALE SHOWN | | BLOG NO. 1 | | |
| DRAWN | | | DRAWING NUMBER H-2-120381 | | SHEET 18 | | |
| D. RUFENACHT | | 03/30/92 | | | OF 23 | | |
| CLASSIFICATION | | BY | | | REV 0 | | |
| NONE | | NOT REQD | | | | | |

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DISTRIBUTION CODE: 403

M193 ACAD

INITIALS: PN
DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/66/93 | APPROVED FOR CONSTRUCTION | REG | RC | CD | NA | NA |
|---|--|---------------------------|--|-------------------------|--------------------|-----------------|-----------------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120381V | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002 CART BASE DETAILS</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> 11-3-92 | | | <p>PROJECT TITLE</p> <p>HANFORD WASTE VITRIFICATION PLANT</p> | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> 11-3-92 | | | | | | | |
| ING INDEX | CHECKED E. GARCIA <i>EL</i> 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | | |
| | DRAWN D. RUFENACHT 03/31/92 | SCALE 1/4 | BLDG NO. 1 | INDEX NO. | | | |
| CLASSIFICATION NONE | | BY NOT RECD | DRAWING NUMBER H-2-120381 | | SHEET 19 | OF 23 | REV 0 |

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DISTRIBUTION CODE: 403


M194 ACAD

INITIALS: PN

DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA |
|--|--------------------------------|---------------------------|--|-----------------------------------|-------------------------|-----------------|
| | | | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B120381W | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002 CART BASE DETAILS</p> | | | |
| REV _____ DATE _____ | | | | | | |
| ERO _____ | | | | | | |
| SIGNATURE | | DATE | | | | |
| PROJ DIR NA | | | | | | |
| QA MGR NA | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | |
| PROJECT MGR NA | | | | | | |
| SYSTEMS MGR NA | | | | | | |
| ENGINEERING MGR NA | | | | | | |
| SUPERVISOR C. DIVONA <i>C/D</i> | | 11-3-92 | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> | | 11-3-92 | | | | |
| ING INDEX | CHECKED E. GARCIA <i>EG</i> | 11-2-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | |
| | DRAWN D. RUFENACHT | 03/31/92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | |
| | | | SCALE SHOWN | BLDG NO. 1 | INDEX NO. | |
| | CLASSIFICATION NONE | BY NOT REQD | DRAWING NUMBER H-2-120381 | | SHEET 20 | OF 23 |
| | | | | | REV 0 | |

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M195 ACAD

INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | | |
|------------------------------------|-----------------|---------------------------|--|-----------------------------------|-------------------------|----|----|
| 0 | 04/16/93 | APPROVED FOR CONSTRUCTION | REG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120381X | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE | Richland Field Office DE - AC06-B6RL10838 | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | TU-130-002 CART BASE DETAILS | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA (pd) | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE (RBC) | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| CHECKED E. GARCIA (RBC) | | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| DRAWN D. RUFENACHT | | 04/01/92 | SCALE SHOWN | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | | |
| NONE | NOT RECD | H-2-120381 | 21 | 23 | 0 | | |

INDEX

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DISTRIBUTION CODE: 403


M196 ACAD

INITIALS: PN

DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|---|----------------------|-------|----|-----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120381Y | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 CART BASE DETAILS | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT B-595 | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | FLUOR CONTRACT NO. 8457 | | | | |
| C. DIVONA <i>CJD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | CWBS NO. P06B | | | | |
| R. CHOATE <i>RJC</i> | | 11-3-92 | | | | | |
| CHECKED | | | BLDG NO. 1 | | | | |
| E. GARCIA <i>EL</i> | | 11-2-92 | | | | | |
| DRAWN | | | INDEX NO. | | | | |
| D. RUFENACHT | | 04/01/92 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120381 | | 22 | 23 | 0 |

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DISTRIBUTION CODE: 403

M197


ACAD

INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | | |
|--|--------------------------------|---------------------------|--|-----------------------------------|-------------------------|-----------------|-----------------|
| 0 | 01/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120381Z | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10B38 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 CART BASE WELDMENT & DETAILS | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> | | 11-3-92 | | | | | |
| ING INDEX | CHECKED E. GARCIA <i>EG</i> | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN D. RUFENACHT | 3-17-92 | SCALE 1/4 | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120381 | | SHEET 23 | OF 23 | REV 0 |

DISTRIBUTION CODE: 403

M198 ACAD

INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | | |
|------------------------|----------|---------------------------|----------------------|----------------|----|-------|----|
| 0 | 04/16/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120382A | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY | | | | | |
| REV _____ DATE _____ | | Richland Field Office | | | | | |
| ERO _____ | | DE - AC06-86RL10838 | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR | | NA | | | | | |
| QA MGR | | NA | | | | | |
| INDEPENDENT SAFETY MGR | | NA | | | | | |
| PROJECT MGR | | NA | | | | | |
| SYSTEMS MGR | | NA | | | | | |
| ENGINEERING MGR | | NA | | | | | |
| SUPERVISOR | | C. DIVONA 11-3-92 | | | | | |
| DESIGN ENGINEER | | R. CHOATE 11-3-92 | | | | | |
| CHECKED | | E. GARCIA 11-2-92 | | | | | |
| DRAWN | | D. SMITH 03/24/92 | | | | | |
| CLASSIFICATION | | BY | | DRAWING NUMBER | | SHEET | |
| NONE | | NOT REQD | | H-2-120382 | | 1 | |
| | | | | | | 3 | |
| | | | | | | 0 | |

U.S. DEPARTMENT OF ENERGY

Richland Field Office
DE - AC06-86RL10838



FLUOR DANIEL, INC.
ADVANCED TECHNOLOGY DIVISION

TU-130-002
CART DRIVE SUPPORT
ASSEMBLY
PARTS LIST & NOTES

PROJECT TITLE

HANFORD WASTE VITRIFICATION PLANT

PROJECT

B-595

FLUOR CONTRACT NO.

8457

CWBS NO.

P06B

SCALE

SHOWN

BLDG NO.

1

INDEX NO.

DISTRIBUTION CODE: 403

M199

ACAD

INITIALS: PN


DATE: 03-16-93

AFC
77 78 79 80

1) RIB, ANGLE
SCALE : 1/4

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | | |
|------------------------|----------|---|---------|----------------------|-----|----|----|
| 0 | 07/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120382B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002 CART DRIVE SUPPORT DETAILS</p> | | | | | |
| REV | DATE | | | | | | |
| ERO | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | 11-3-92 | | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | 11-3-92 | | | | | | |
| CHECKED | | | | | | | |
| E. GARCIA | 11-2-92 | | | | | | |
| DRAWN | | | | | | | |
| C. PEASE | 04/20/92 | | | | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | | |
| NONE | NOT RECD | H-2-120382 | 2 | 3 | 0 | | |

INDEX

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77 78 79 80

DISTRIBUTION CODE: 403

M200 ACAD

1
INITIALS: PN
DATE: 03-16-93

2 2

(16) **RIB, ANGLE**
SCALE : 1/2

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | |
|--|----------|--|-------------------|----|----------------------|----|-----|
| | | | NA | NA | NA | NA | |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | | B120382C | CADCODE | | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 CART DRIVE SUPPORT DETAILS | | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> 11-3-92 | | HANFORD WASTE VITRIFICATION PLANT | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> 11-3-92 | | | | | | | |
| CHECKED E. GARCIA <i>EG</i> 11-2-92 | | | | | | | |
| DRAWN C. PEASE 04/07/92 | | | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120382 | | 3 | 3 | 0 |

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| 77 78 79 80 | | |

DISTRIBUTION CODE: 403


M201

ACAD

INITIALS: PN
DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

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|------------------------|--|------------------|--|--|--|-----------------------------------|--|--------------------|--|-----------|--|
| | | | | | | | | | | | |
| 0 | | 04/06/93 | | APPROVED FOR CONSTRUCTION | | EG | | RC CD NA NA | | | |
| REV NO. | | DATE | | REVISION DESCRIPTION | | APPROVAL INITIALS | | | | | |
| CADFILE | | B120383A | | CADCODE | | 2B:IBM:ACD2:12.C1:SS | | | | | |
| ENGINEERING RELEASE | | | | <p align="center">U.S. DEPARTMENT OF ENERGY</p> <p align="center">Richland Field Office DE - AC06-86RL10838</p> <p align="center"> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p align="center">TU-130-002 FIXED STOP ASSEMBLY PARTS LIST & NOTES</p> | | | | | | | |
| REV | | DATE | | | | | | | | | |
| ERO | | | | | | | | | | | |
| SIGNATURE | | DATE | | | | | | | | | |
| PROJ DIR | | NA | | | | | | | | | |
| QA MGR | | NA | | | | | | | | | |
| INDEPENDENT SAFETY MGR | | NA | | | | | | | | | |
| PROJECT MGR | | NA | | | | | | | | | |
| SYSTEMS MGR | | NA | | | | | | | | | |
| ENGINEERING MGR | | NA | | | | | | | | | |
| SUPERVISOR | | C. DIVONA | | 11-3-92 | | PROJECT TITLE | | | | | |
| DESIGN ENGINEER | | R. CHOATE | | 11-3-92 | | HANFORD WASTE VITRIFICATION PLANT | | | | | |
| CHECKED | | E. GARCIA | | 11-2-92 | | PROJECT | | FLUOR CONTRACT NO. | | CWBS NO. | |
| DRAWN | | L.C. SANVICTORES | | 11/31/91 | | SCALE | | BLDG NO. | | INDEX NO. | |
| CLASSIFICATION | | BY | | DRAWING NUMBER | | SHEET | | OF | | REV | |
| NONE | | NOT RECD | | H-2-120383 | | 1 | | 3 | | 0 | |

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| 77 | 78 | 79 80 |


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M202 ACAD

INITIALS: PN
DATE: 03-16-93


APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

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|-----------------------------------|----------|---------------------------|--|----------------------|-----------|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120383B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 FIXED STOP WELDMENT & PLUNGER ASSEMBLY | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE | | | | |
| C. DIVONA <i>C/D</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | B-595 | | | | |
| R. CHOATE <i>R/C</i> | | 11-3-92 | | | | | |
| CHECKED | | | FLUOR CONTRACT NO. | | CWBS NO. | | |
| E. GARCIA <i>E/G</i> | | 11-2-92 | 8457 | | P06B | | |
| DRAWN | | | BLDG NO. | | INDEX NO. | | |
| L.C. SANVICTORES | | 11-13-91 | 1 | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120383 | | 2 | 3 | 0 |

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/09/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|--|----------|---------------------------|---|-----------------------------------|-------------------------|----------------|-----------------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120383C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE REV _____ DATE _____ ERO _____ | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | TU-130-002 FIXED STOP DETAILS | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> 11-3-92 | | | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> 11-3-92 | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| CHECKED E. GARCIA <i>EG</i> 11-2-92 | | | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| DRAWN L.C. SANVICTORES 11/13/91 | | | SCALE SHOWN | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120383 | | SHEET 3 | OF 3 | REV 0 |

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M204 ACAD


INITIALS: PN

DATE: 03-16-93

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| 77 | 78 | 79 80 |

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/66/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | | | | | |
|------------------------|----------|---|-------------------|----------------------|------|-----------|------|----|---|-----|---|
| | | | NA | NA | NA | NA | | | | | |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | | | | | |
| CADFILE | B120384A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | | | | | |
| ENGINEERING RELEASE | | <p align="center">U.S. DEPARTMENT OF ENERGY</p> <p align="center">Richland Field Office DE -- AC06-86RL10838</p> <p align="center"> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p align="center">TU-130-002 LIMIT SWITCH ASSEMBLY PARTS LIST & NOTES</p> | | | | | | | | | |
| REV | DATE | | | | | | | | | | |
| ERO | | | | | | | | | | | |
| SIGNATURE | DATE | | | | | | | | | | |
| PROJ DIR | | | | | | | | | | | |
| QA MGR | | | | | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | | | | | |
| PROJECT MGR | | | | | | | | | | | |
| SYSTEMS MGR | | | | | | | | | | | |
| ENGINEERING MGR | | | | | | | | | | | |
| SUPERVISOR | | <p align="center">PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT</p> | | | | | | | | | |
| C. DIVONA | 11-3-92 | | | | | | | | | | |
| DESIGN ENGINEER | | | | | | | | | | | |
| R. CHOATE | 11-3-92 | | | | | | | | | | |
| CHECKED | | | | | | | | | | | |
| E. GARCIA | 11-2-92 | PROJECT | B-595 | FLUOR CONTRACT NO. | 8457 | CWBS NO. | P06B | | | | |
| DRAWN | | SCALE | 1/4 | BLDG NO. | 1 | INDEX NO. | | | | | |
| R. MOREL | 8-13-92 | DRAWING NUMBER | | H-2-120384 | | SHEET | 1 | OF | 3 | REV | 0 |
| CLASSIFICATION | BY | NOT RECD | | | | | | | | | |
| NONE | | | | | | | | | | | |

DISTRIBUTION CODE: 403


M205 ACAD

INITIALS: PN
DATE: 03-16-93

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APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 07/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|--|----------------------|--------------------------------|----|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120384B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10B38 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 LIMIT SWITCH ASSEMBLY PART DETAILS | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT B-595 | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| C. DIVONA | | 11-3-92 | SCALE SHOWN | | BLDG NO. 1 | | |
| DESIGN ENGINEER | | | INDEX NO. | | | | |
| R. CHOATE | | 11-3-92 | REV 0 | | | | |
| CHECKED | | | | | | | |
| E. GARCIA | | 11-2-92 | | | | | |
| DRAWN | | | | | | | |
| R. MOREL | | 8-18-92 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | |
| NONE | | NOT RECD | H-2-120384 | | 2 | 3 | |

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DISTRIBUTION CODE: 403


M206 ACAD

INITIALS: PN

DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|---|----------------------|--------------------|----|-----------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120384C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | TU-130-002 LIMIT SWITCH ASSEMBLY PARTS DETAILS | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | PROJECT | | FLUOR CONTRACT NO. | | CWBS NO. |
| E. GARCIA | | 11-2-92 | B-595 | | 8457 | | P06B |
| DRAWN | | | SCALE | | BLDG NO. | | INDEX NO. |
| R. MOREL | | 8-24-92 | SHOWN | | 1 | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120384 | | 3 | 3 | 0 |

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INITIALS: PN
DATE: 03-16-93

DISTRIBUTION CODE: 403

M207 ACAD

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | | |
|-----------------------------------|------------|---------------------------|--|----------------------|-------------|----------|----|
| 0 | cy 6/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120385A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 CART DRIVE PARTS LIST & NOTES | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR | | | | | | | |
| DESIGN ENGINEER | | | | | | | |
| CHECKED | | | | | | | |
| DRAWN | | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| M. PICCIOTTA | | 2-4-92 | B-595 | 8457 | P06B | | |
| CLASSIFICATION | | BY | SCALE | BLDG NO. | INDEX NO. | | |
| NONE | | NOT RECD | NONE | 1 | | | |
| | | | DRAWING NUMBER | SHEET | OF | REV | |
| | | | H-2-120385 | 1 | 12 | 0 | |

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DISTRIBUTION CODE: 403

M208 ACAD


INITIALS: PN

DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II

SAFETY CLASS 3

| | | | | | | | |
|-----------------------------------|-----------------|---------------------------|---|----------------------|----|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120385B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | TU-130-002 CART DRIVE ASSEMBLY | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT B-595 FLUOR CONTRACT NO. 8457 CWBS NO. P06B | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | SCALE 1/8 BLDG NO. 1 INDEX NO. | | | | |
| E. GARCIA | | 11-2-92 | | | | | |
| DRAWN | | | DRAWING NUMBER H-2-120385 SHEET 2 OF 12 REV 0 | | | | |
| S. REGACHO | | 12-09-91 | | | | | |
| CLASSIFICATION | BY | | | | | | |
| NONE | NOT RECD | | | | | | |

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DISTRIBUTION CODE: 403

M209


ACAD

INITIALS: PN

DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|------------------------|----------|---|--|---------|----------------------|-------|-------|
| | | | | | | | |
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | | EG | RC | CD | NA/NA |
| | | | | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | | | APPROVAL INITIALS | | |
| CADFILE | B120385C | | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office</p> <p>DE - AC06-B6RL10838</p> | | | | | |
| REV | DATE | | | | | | |
| ERO | |  <p>FLUOR DANIEL, INC.</p> <p>ADVANCED TECHNOLOGY DIVISION</p> | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR | | <p>TU-130-002</p> <p>CART DR</p> <p>SPLASH GUARD WHEEL DR</p> <p>RIGHT SIDE ASSY</p> | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | <p>PROJECT TITLE</p> <p>HANFORD WASTE VITRIFICATION PLANT</p> | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | <p>PROJECT</p> <p>B-595</p> | | | | | |
| C. DIVONA <i>CW</i> | 11-3-92 | | | | | | |
| DESIGN ENGINEER | | <p>FLUOR CONTRACT NO.</p> <p>8457</p> | | | | | |
| R. CHOATE <i>RC</i> | 11-3-92 | | | | | | |
| CHECKED | | <p>CWBS NO.</p> <p>P06B</p> | | | | | |
| E. GARCIA <i>EG</i> | 11-2-92 | | | | | | |
| DRAWN | | <p>BLDG NO.</p> <p>1</p> | | | | | |
| C. PEASE | 04/29/92 | | | | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | | | | SHEET | OF |
| NONE | NOT REQD | H-2-120385 | | | | 3 | 12 |
| | | | | | | REV | 0 |

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DISTRIBUTION CODE: 403

M210 ACAD

INITIALS: PN
DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|------------------------|----------|---------------------------|---|----------------------|---|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120385D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p align="center">U.S. DEPARTMENT OF ENERGY</p> <p align="center">Richland Field Office DE - AC06-86RL10838</p> <p align="center"> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p align="center">TU-130-002 CART DR SPLASH GUARD WHEEL DR RIGHT SIDE DETS</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR | | NA | | | | | |
| QA MGR | | NA | | | | | |
| INDEPENDENT SAFETY MGR | | NA | | | | | |
| PROJECT MGR | | NA | | | | | |
| SYSTEMS MGR | | NA | | | | | |
| ENGINEERING MGR | | NA | | | | | |
| SUPERVISOR | | | <p align="center">PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT</p> | | | | |
| C. DIVONA <i>CW</i> | | | | | | | |
| 11-3-92 | | | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE <i>RC</i> | | | <p align="center">PROJECT B-595</p> | | | | |
| 11-3-92 | | | <p align="center">FLUOR CONTRACT NO. 8457</p> | | <p align="center">CWBS NO. P06B</p> | | |
| CHECKED | | | <p align="center">SCALE 1/2</p> | | <p align="center">BLDG NO. 1</p> | | |
| E. GARCIA <i>EG</i> | | | <p align="center">INDEX NO.</p> | | | | |
| 11-2-92 | | | | | | | |
| DRAWN | | | | | | | |
| C. PEASE | | | | | | | |
| 04/29/92 | | | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120385 | | 4 | 12 | 0 |

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| A | F | C |
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DISTRIBUTION CODE: 403

M211 ACAD

1 INITIALS: PN
DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA | |
|-----------------------------------|----------|---------------------------|---|----------------------|--------------------|----------|-------------|----------|
| | | | NA | NA | NA | NA | NA | |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | | |
| CADFILE | B120385E | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 CART DR SPLASH GUARD WHEEL DR RIGHT SIDE DETS | | | | | |
| PROJ DIR | | | | | | | | |
| QA MGR | | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | | |
| PROJECT MGR | | | | | | | | |
| SYSTEMS MGR | | | | | | | | |
| ENGINEERING MGR | | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | | |
| C. DIVONA | | 11-3-92 | | | | | | |
| DESIGN ENGINEER | | | | | | | | |
| R. CHOATE | | 11-3-92 | PROJECT | | FLUOR CONTRACT NO. | | CWBS NO. | |
| E. GARCIA | | 11-2-92 | B-595 | | 8457 | | P06B | |
| DRAWN | | | SCALE | | BLDG NO. | | INDEX NO. | |
| C. PEASE | | 04/29/92 | 1/2 | | 1 | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120385 | | | 5 | 12 | 0 |


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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993


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|-----------------------------------|----------|---------------------------|--|----------------------|----|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120385F | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 CART DR SPLASH GUARD WHEEL DR LEFT SIDE ASSY | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT B-595 | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | FLUOR CONTRACT NO. 8457 | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | CWBS NO. P06B | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | SCALE 1/2 | | | | |
| E. GARCIA | | 11-2-92 | | | | | |
| DRAWN | | | BLDG NO. 1 | | | | |
| C. PEASE | | 04/29/92 | | | | | |
| CLASSIFICATION | | | INDEX NO. 0 | | | | |
| NONE | | | | | | | |
| BY | | | DRAWING NUMBER H-2-120385 | | | | |
| NOT REQD | | | | | | | |
| | | | SHEET 6 | | | | |
| | | | OF 12 | | | | |

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|---|----------|---------------------------|--|----------------------|-----------------------------------|-----------------|-------------------------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120385G | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | TU-130-002 CART DR SPLASH GUARD WHEEL DR LEFT SIDE DETS | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR C. DIVONA <i>Cps</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE <i>Ric</i> | | 11-3-92 | PROJECT TITLE | | | | |
| CHECKED E. GARCIA <i>E</i> | | 11-2-92 | PROJECT B-595 | | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B |
| DRAWN C. PEASE | | 04/29/92 | SCALE 1/2 | | BLDG NO. 1 | | INDEX NO. |
| CLASSIFICATION NONE | | BY NOT RECD | DRAWING NUMBER H-2-120385 | | SHEET 7 | OF 12 | REV 0 |

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DISTRIBUTION CODE: 403


M214 ACAD

INITIALS: PN

DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

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|-----------------------------------|----------|--|---|----------------------|----|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120385H | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 CART DRIVE CLUTCH COUPLING COVER AND SUPPORT ASSY | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT B-595 | | | | |
| C. DIVONA <i>cyd</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | FLUOR CONTRACT NO. 8457 | | | | |
| R. CHOATE <i>RCC</i> | | 11-3-92 | | | | | |
| CHECKED | | | CWBS NO. P068 | | | | |
| E. GARCIA <i>JK</i> | | 11-2-92 | | | | | |
| DRAWN | | | BLDG NO. 1 | | | | |
| S. REGACHO | | 11-25-91 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER H-2-120385 | | | | |
| NONE | | NOT REQD | | | | | |
| | | | SHEET 8 | | | | |
| | | | OF 12 | | | | |
| | | | REV 0 | | | | |

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INITIALS: PN
DATE: 03-16-93


DISTRIBUTION CODE: 403

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | | |
|------------------------|------------|---|---|----------------------|-----------|----|-----|
| 0 | 04/66/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120385J | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002 CART DRIVE CLUTCH COUPLING COVER DETAILS</p> | | | | | |
| REV | DATE | | | | | | |
| ERO | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | <p>PROJECT TITLE</p> <p>HANFORD WASTE VITRIFICATION PLANT</p> | | | | |
| C. DIVONA | 11-3-92 | | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | 11-3-92 | | | | | | |
| WING INDEX | CHECKED | DATE | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| | E. GARCIA | 3-24-93 | B-595 | 8457 | P06B | | |
| | DRAWN | | SCALE | BLDG NO. | INDEX NO. | | |
| | S. REGACHO | 11-13-91 | 1/2 | 1 | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120385 | | 9 | 12 | 0 |

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AFC
77 78 79 80

DISTRIBUTION CODE: 403


M216 ACAD

INITIALS: PN

DATE: 03-16-93

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|------------------------|----------|---------------------------|--|----------------------|-----------|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120385K | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 CART DRIVE CLUTCH COUPLING SUPPORT DETAILS | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | PROJECT TITLE | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT | | | | |
| E. GARCIA | | 11-2-92 | | | | | |
| CHECKED | | | FLUOR CONTRACT NO. | | CWBS NO. | | |
| S. REGACHO | | 11-18-91 | 8457 | | P06B | | |
| DRAWN | | | BLDG NO. | | INDEX NO. | | |
| SCALE | | | 1 | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120385 | | 10 | 12 | 0 |

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DISTRIBUTION CODE: 403


M217 ACAD

INITIALS: PN
DATE: 03-16-93

AFC
77 78 79 80

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|--|----------------------|-----------|----|------------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120385L | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10B38 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 CART DRIVE CLUTCH COUPLING SHAFT AND SPACER DETS | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT B-595 | | | | |
| C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | FLUOR CONTRACT NO. 8457 | | | | |
| R. CHOATE <i>RC</i> | | 11-3-92 | | | | | |
| CHECKED | | | CWBS NO. P06B | | | | |
| E. GARCIA <i>EG</i> | | 11-2-92 | | | | | |
| DRAWN | | | SCALE SHOWN | | | | |
| S. REGACHO | | 12-18-91 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER H-2-120385 | | | | |
| NONE | | NOT RECD | | | | | |
| | | | SHEET | | OF | | REV |
| | | | 11 | | 12 | | 0 |

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INITIALS: PN

DATE: 03-16-93

DISTRIBUTION CODE: 403


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APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|--|----------------------|--------------------|-----------|-----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120385M | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 CART DRIVE MODIFIED GEAR WHEEL DETAIL | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | PROJECT | | FLUOR CONTRACT NO. | CWBS NO. | |
| E. GARCIA | | 11-2-92 | B-595 | | 8457 | P06B | |
| DRAWN | | | SCALE | | BLDG NO. | INDEX NO. | |
| S. REGACHO | | 12-18-91 | 1/2 | | 1 | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT RECD | H-2-120385 | | 12 | 12 | 0 |

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INITIALS: PN
DATE: 03-16-93


DISTRIBUTION CODE: 403

M219 ACAD

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77 78 79 80

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3


| | | | | | | |
|------------------------|----------|--|-------------------|----------------------|-----|----------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B120386A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | <p align="center">U.S. DEPARTMENT OF ENERGY</p> <p align="center">Richland Field Office DE - AC06-86RL10838</p> <p align="center"> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p align="center">TU-130-002 SPIDER DR MOT ASSY PARTS LIST & NOTES</p> | | | | |
| REV | DATE | | | | | |
| ERO | | | | | | |
| SIGNATURE | DATE | | | | | |
| PROJ DIR | | | | | | |
| QA MGR | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | |
| PROJECT MGR | | | | | | |
| SYSTEMS MGR | | | | | | |
| ENGINEERING MGR | | | | | | |
| SUPERVISOR | | | | | | |
| C. DIVONA | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | | | | |
| R. CHOATE | 11-3-92 | | | | | |
| CHECKED | | | | | | |
| E. GARCIA | 11-2-92 | | | | | |
| DRAWN | | | | | | |
| P. ASHLEY | 12-27-91 | | | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | |
| NONE | NOT RECD | H-2-120386 | 1 | 6 | 0 | |

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | | | |
|------------------------|------------------------------|---------------------------|--|----------------------|----|-------|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA | |
| | | | NA | NA | NA | NA | NA | |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | | |
| CADFILE | B120386B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10B38</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002 SPIDER DRIVE MOTOR WELDMENT</p> | | | | | |
| REV _____ DATE _____ | | | | | | | | |
| ERO _____ | | | | | | | | |
| SIGNATURE | DATE | | | | | | | |
| PROJ DIR | | | | | | | | |
| QA MGR | | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | | |
| PROJECT MGR | | | | | | | | |
| SYSTEMS MGR | | | | | | | | |
| ENGINEERING MGR | | | | | | | | |
| SUPERVISOR | C. DIVONA <i>CJD</i> 11-3-92 | | <p>PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT</p> | | | | | |
| DESIGN ENGINEER | R. CHOATE <i>RBC</i> 11-3-92 | | | | | | | |
| CHECKED | E. GARCIA <i>EL</i> 11-2-92 | | | | | | | |
| DRAWN | P. ASHLEY 12-27-91 | | | | | | | |
| CLASSIFICATION | | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | | NOT RECD | H-2-120386 | | 2 | 6 | 0 |

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| A | F | C |
| 77 | 78 | 79 80 |


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M221 ACAD

1 INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | | |
|--|----------|---------------------------|---|----------------------|-------|----|-----|
| 0 | 01/66/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120386C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002 SPIDER DRIVE MOTOR DETAILS</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | | 11-3-92 | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> | | | 11-3-92 | | | | |
| CHECKED E. GARCIA <i>EG</i> | | | 11-2-92 | | | | |
| DRAWN P. ASHLEY | | | 12-27-91 | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT RECD | H-2-120386 | | 3 | 6 | 0 |

INDEX

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|----|----|----|----|
| 2 | A | F | C |
| 77 | 78 | 79 | 80 |


DISTRIBUTION CODE: 403

M222 ACAD

INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | VCD | NA | NA |
|--|----------|---|--|-----------------------------------|-------------------------|----|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120386D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | TU-130-002 SPIDER DRIVE MOTOR HEAT SHIELD ASSY | | | | |
| SUPERVISOR C. DIVONA <i>CW</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> | | 11-3-92 | | | | | |
| CHECKED E. GARCIA <i>EG</i> | | 11-2-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DRAWN P. ASHLEY | | 12-27-91 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| CLASSIFICATION NONE | | BY NOT REQD | SCALE SHOWN | BLDG NO. 1 | INDEX NO. | | |
| | | DRAWING NUMBER H-2-120386 | SHEET 4 | OF 6 | REV 0 | | |


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ING INDEX

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|--|----------------------|--------------------------------|----|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120386E | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 SPIDER DRIVE MOTOR HEAT SHIELD DETAILS | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT B-595 | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| C. DIVONA | | 11-3-92 | SCALE 1/4 | | BLDG NO. 1 | | |
| DESIGN ENGINEER | | | INDEX NO. | | | | |
| R. CHOATE | | 11-3-92 | REV | | | | |
| CHECKED | | | SHEET | | | | |
| E. GARCIA | | 11-2-92 | OF | | | | |
| DRAWN | | | REV | | | | |
| P. ASHLEY | | 12-30-91 | 0 | | | | |
| CLASSIFICATION | | | DRAWING NUMBER H-2-120386 | | 5 | | |
| BY | | | NOT REQD | | 6 | | |
| NONE | | | | | 0 | | |

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M224 ACAD

INITIALS: PN
DATE: 03-16-93

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77 78 79 80

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | | |
|-----------------------------------|----------|--|--|----------------------|----|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120386F | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 SPIDER DRIVE MOTOR HEAT SHIELD DETAILS | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT B-595 | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | FLUOR CONTRACT NO. 8457 | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | CWBS NO. P06B | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | SCALE 1/4 | | | | |
| E. GARCIA | | 11-2-92 | | | | | |
| DRAWN | | | BLDG NO. 1 | | | | |
| P. ASHLEY | | 12-30-91 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER H-2-120386 | | | | |
| NONE | | NOT RECD | | | | | |
| | | | SHEET 6 | | | | |
| | | | OF 6 | | | | |
| | | | REV 0 | | | | |

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DISTRIBUTION CODE: 403

M225 ACAD

1 INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 6/6/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|------------------------|---------------------|---------------------------|---|----------------------|-----------|----|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120388A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 CONDUIT & CABLE ASSEMBLY PARTS LIST & NOTES | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE <i>RC</i> | | 11-3-92 | PROJECT TITLE | | | | |
| | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| CHECKED | E. GARCIA <i>EG</i> | 11-2-92 | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| | | | B-595 | 8457 | P06B | | |
| DRAWN | EYBARRA | 3/2/92 | SCALE | BLDG NO. | INDEX NO. | | |
| | | | NONE | 1 | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | | |
| NONE | NOT RECD | H-2-120388 | 1 | 7 | 0 | | |

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DISTRIBUTION CODE: 402

M226 ACAD

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INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | | | |
|--|----------|---------------------------|--|----------------------|-----------------------------------|-------------------|-------------------------|-----------------|
| 0 | 01/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA | |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | | |
| CADFILE | B120388B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | | |
| ENGINEERING RELEASE REV _____ DATE _____ ERO _____ | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | | |
| PROJ DIR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | | |
| QA MGR NA | | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | TU-130-002 CONDUIT & CABLE ASSEMBLY | | | | | |
| PROJECT MGR NA | | | | | | | | |
| SYSTEMS MGR NA | | | | | | | | |
| ENGINEERING MGR NA | | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> | | | | | | | | |
| CHECKED E. GARCIA <i>EG</i> | | | PROJECT B-595 | | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | |
| DRAWN EYBARRA | | | SCALE NONE | | BLDG NO. 1 | | INDEX NO. | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120388 | | | SHEET 2 | OF 7 | REV 0 |

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DISTRIBUTION CODE: 402


M227 ACAD

INITIALS: PN
DATE: 03-16-93

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APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|--|--|---------------------------|--|-----------------------------------|-------------------------|----------------|-----------------|
| 0 | 01/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120388C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE REV _____ DATE _____ ERO _____ | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | TU-130-002 CONDUIT & CABLE ASSEMBLY | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> 11-3-92 | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> 11-3-92 | | | | | | | |
| DRAWING INDEX | CHECKED E. GARCIA <i>EG</i> 11-2-92 | | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN EYBARRA 3/2/92 | | SCALE NONE | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120388 | | SHEET 3 | OF 7 | REV 0 |

DISTRIBUTION CODE: 402

M228 ACAD


INITIALS: PN

DATE: 03-16-93

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QUALITY LEVEL II APR - 6 1993

SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA/NA |
|------------------------|----------|--|--|----------------------|--------------------------------|-------|
| | | | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B120388D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | |
| ERO _____ | | Richland Field Office DE - AC06-B6RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | |
| PROJ DIR | | | | | | |
| NA | | | | | | |
| QA MGR | | | | | | |
| NA | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | |
| NA | | | | | | |
| PROJECT MGR | | | TU-130-002 CONDUIT & CABLE ASSEMBLY DETAILS | | | |
| NA | | | | | | |
| SYSTEMS MGR | | | | | | |
| NA | | | | | | |
| ENGINEERING MGR | | | | | | |
| NA | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | |
| SUPERVISOR | | | | | | |
| C. DIVONA | | 11-3-92 | PROJECT B-595 | | | |
| DESIGN ENGINEER | | | | | | |
| R. CHOATE | | 11-3-92 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | |
| CHECKED | | | SCALE NONE | | INDEX NO. | |
| E. GARCIA | | 11-2-92 | BLDG NO. 1 | | | |
| DRAWN | | | DRAWING NUMBER H-2-120388 | | | |
| EYBARRA | | 3/2/92 | | | | |
| CLASSIFICATION | | BY | SHEET 4 | | OF 7 | |
| NONE | | NOT REQD | | | REV 0 | |

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| 77 | 78 | 79 80 |

DISTRIBUTION CODE: 402

M229

ACAD


INITIALS: PN

DATE: 03-16-93

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APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|-----------------------------------|----------|--|---|----------------------|----|----|----|
| 0 | 01/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120388E | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S.DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10B38 | | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 CONDUIT & CABLE ASSEMBLY DETAILS | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT B-595 FLUOR CONTRACT NO. 8457 CWBS NO. P06B | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | SCALE NONE BLDG NO. 1 INDEX NO. | | | | |
| E. GARCIA | | 11-2-92 | | | | | |
| DRAWN | | | DRAWING NUMBER H-2-120388 SHEET 5 OF 7 REV 0 | | | | |
| EYBARRA | | 3/2/92 | | | | | |
| CLASSIFICATION | | BY | | | | | |
| NONE | | NOT RECD | | | | | |

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77 78 79 80


DISTRIBUTION CODE: 402

M230 ACAD

INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | | |
|-----------------------------------|----------|---------------------------|--|----------------------|----|----|----|
| 0 | 01/16/93 | APPROVED FOR CONSTRUCTION | REG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120388F | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | TU-130-002 CONDUIT & CABLE ASSEMBLY DETAILS | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT B-595 | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | FLUOR CONTRACT NO. 8457 | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | CWBS NO. P06B | | | | |
| E. GARCIA | | 11-2-92 | | | | | |
| DRAWN | | | SCALE 1/1 | | | | |
| EYBARRA | | 3/2/92 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER H-2-120388 | | | | |
| NONE | | NOT REQD | | | | | |
| | | | SHEET 6 | | | | |
| | | | OF 7 | | | | |
| | | | REV 0 | | | | |

B

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ING INDEX

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DISTRIBUTION CODE: 402

M231

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INITIALS: PN

DATE: 03-16-93



APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|--|----------|---------------------------|--|----------------------|----------------------|----|--------------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120388G | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | TU-130-002 CONDUIT & CABLE ASSEMBLY DETAILS | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED E. GARCIA <i>EG</i> | | 11-2-92 | | | | | |
| DRAWN EYBARRA | | 3/2/92 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| CLASSIFICATION NONE | | BY NOT REOD | SCALE 1/1 | | BLDG NO. 1 | | |
| | | | DRAWING NUMBER H-2-120388 | | SHEET 7 | | OF 7 |
| | | | | | | | REV 0 |

INDEX

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| AFC |
| 77 78 79 80 |


DISTRIBUTION CODE: 402

M232 ACAD

INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 01/06/93 | APPROVED FOR CONSTRUCTION | REG | RC | CD | NA | NA |
|------------------------|----------|---|--------------------|----------------------|----|-----|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120390A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | <p align="center">U.S. DEPARTMENT OF ENERGY</p> <p align="center">Richland Field Office DE - AC06-86RL10838</p> <p align="center"> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p align="center">TU-130-002 SUPPORT BRACKET WELDMENT PARTS LIST & NOTES</p> | | | | | |
| REV | DATE | | | | | | |
| ERO | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | <p align="center">PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT</p> | | | | | |
| C. DIVONA | 11-3-92 | | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | 11-3-92 | | | | | | |
| CHECKED | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | | |
| E. GARCIA | 11-2-92 | B-595 | 8457 | P06B | | | |
| DRAWN | | SCALE | BLDG NO. | INDEX NO. | | | |
| R. MOREL | 08-12-92 | 1/4 | 1 | | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | | SHEET | OF | REV | |
| NONE | NOT REQD | H-2-120390 | | 1 | 2 | 0 | |

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| 0 | 6/16/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA/NA |
|-----------------------------------|---------|---------------------------|---|----|--------------------------------|-------|
| | | | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | | B120390B | CADCODE | | 2B:IBM:ACD2:12.C1:SS | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | |
| REV _____ DATE _____ ERO _____ | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 LIMIT SWITCH SUPPORT DETAILS | | | |
| PROJ DIR | | | | | | |
| NA | | | | | | |
| QA MGR | | | | | | |
| NA | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | |
| NA | | | | | | |
| PROJECT MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | |
| NA | | | | | | |
| SYSTEMS MGR | | | | | | |
| NA | | | | | | |
| ENGINEERING MGR | | | PROJECT B-595 | | | |
| NA | | | | | | |
| SUPERVISOR | | | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | |
| C. DIVONA | | 11-3-92 | SCALE SHOWN | | BLDG NO. 1 | |
| DESIGN ENGINEER | | | INDEX NO. | | | |
| R. CHOATE | | 11-3-92 | | | | |
| CHECKED | | | | | | |
| E. GARCIA | | 11-2-92 | | | | |
| DRAWN | | | | | | |
| R. MOREL | | 8-13-92 | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF |
| NONE | | NOT RECD | H-2-120390 | | 2 | 2 |
| | | | | | | 0 |

DISTRIBUTION CODE: 403


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INITIALS: PN
DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | | |
|--------------------------------------|------------------------------|--|------------------------------|------------------|------------|---------|----------|
| 0 | 04/10/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120392A | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY | | | | | |
| REV _____ DATE _____ | | Richland Field Office | | | | | |
| ERO _____ | | DE - AC06-B6RL10838 | | | | | |
| SIGNATURE _____ DATE _____ | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | TU-130-002 EMERGENCY PULL BAR ASSEMBLY | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA 11-3-92 | | | | | | | |
| DESIGN ENGINEER R. CHOATE 11-3-92 | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | | |
| G INDEX | CHECKED E. GARCIA 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | | |
| | DRAWN EYBARRA 1/20/92 | SCALE 1/1 | BLDG NO. 1 | INDEX NO. | | | |
| CLASSIFICATION NONE | | BY NOT REOD | DRAWING NUMBER H-2-120392 | | SHEET 1 | OF 4 | REV 0 |

QUALITY LEVEL II
SAFETY CLASS 3

APR - 6 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|---|----------------------|----|----|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120392B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 EMERGENCY PULL BAR WELDMENT | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT B-595 | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | FLUOR CONTRACT NO. 8457 | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | CWBS NO. P06B | | | | |
| E. GARCIA | | 11-2-92 | | | | | |
| DRAWN | | | BLDG NO. 1 | | | | |
| EYBARRA | | 1/20/92 | | | | | |
| CLASSIFICATION | | BY | INDEX NO. 2 | | | | |
| NONE | | NOT REQD | | | | | |
| | | | DRAWING NUMBER H-2-120392 | | | | |
| | | | | | | | |
| | | | SHEET 2 | | | | |
| | | | | | | | |
| | | | OF 4 | | | | |
| | | | | | | | |
| | | | REV 0 | | | | |
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13 TAB
SCALE: 1/2

APR - 8 1993

QUALITY LEVEL II
SAFETY CLASS 3

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| 0 | 01/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA NA |
|--|----------|---|-------------------|------------------------------|----|------------|
| | | | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B120392C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10B38</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-002 EMERGENCY PULL BAR DETAILS</p> | | | | |
| REV _____ DATE _____ | | | | | | |
| ERO _____ | | | | | | |
| SIGNATURE | DATE | | | | | |
| PROJ DIR NA | | | | | | |
| QA MGR NA | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | |
| PROJECT MGR NA | | | | | | |
| SYSTEMS MGR NA | | | | | | |
| ENGINEERING MGR NA | | | | | | |
| SUPERVISOR C. DIVONA <i>GD</i> 11-3-92 | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE <i>file</i> 11-3-92 | | PROJECT B-595 | | | | |
| CHECKED E. GARCIA <i>file</i> 11-2-92 | | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| DRAWN EYBARRA 1/20/92 | | SCALE SHOWN | | BLDG NO. 1 | | INDEX NO. |
| CLASSIFICATION NONE | | BY NOT REQD | | DRAWING NUMBER H-2-120392 | | SHEET 3 |
| | | | | | | OF 4 |
| | | | | | | REV 0 |

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DISTRIBUTION CODE: 403

M237 ACAD

INITIALS: PN
DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | |
|-----------------------------------|-------------|---|---|---|--------------------|----------|
| 0 | 04 06/93 | APPROVED FOR CONSTRUCTION | DEG | RC | CD | NA NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA |
| CADFILE | B120392D | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-002 EMERGENCY PULL BAR LIFTING LOOP | | | |
| PROJ DIR | | NA | | | | |
| QA MGR | | NA | | | | |
| INDEPENDENT SAFETY MGR | | NA | | | | |
| PROJECT MGR | | NA | | | | |
| SYSTEMS MGR | | NA | | | | |
| ENGINEERING MGR | | NA | | | | |
| SUPERVISOR | | C. DIVONA | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | |
| DESIGN ENGINEER | | R. CHOATE | 11-3-92 | | | |
| ING INDEX | CHECKED | E. GARCIA | 11-2-92 | PROJECT | FLUOR CONTRACT NO. | CWBS NO. |
| | DRAWN | EYBARRA | 1/20/92 | B-595 | 8457 | P06B |
| CLASSIFICATION | | BY | DRAWING NUMBER | SHEET | OF | REV |
| NONE | | NOT REOD | H-2-120392 | 4 | 4 | 0 |

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INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

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|-----------------------------------|----------|---------------------------|--|----------------------|--------------------|----|-----------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120421A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001/002 CART DRIVE COUPLING ASSEMBLY PARTS LIST & NOTES | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT | | FLUOR CONTRACT NO. | | CWBS NO. |
| C. DIVONA <i>CD</i> | | 11-3-92 | B-595 | | 8457 | | P06B |
| DESIGN ENGINEER | | | SCALE | | BLDG NO. | | INDEX NO. |
| R. CHOATE <i>RC</i> | | 11-3-92 | 2/1 | | 1 | | |
| CHECKED | | | DRAWING NUMBER | | SHEET | OF | REV |
| E. GARCIA <i>EG</i> | | 11-2-92 | H-2-120421 | | 1 | 3 | 0 |
| DRAWN | | | | | | | |
| S.L. REGACHO | | 9-23-91 | | | | | |
| CLASSIFICATION | | BY | | | | | |
| NONE | | NOT REQD | | | | | |


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G INDEX

QUALITY LEVEL II
SAFETY CLASS 3

APR - 8 1993

| | | | | | | | |
|---|----------|---------------------------|--|----------------------|-----------------------------------|----------|-------------------------|
| 0 | 04/16/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120421B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 TU-130-002 COUPLING ASSEMBLY & DETAILS | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| CHECKED E. GARCIA <i>EG</i> | | 11-2-92 | | | | | |
| DRAWN S.L. REGACHO | | 9-23-92 | PROJECT B-595 | | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B |
| | | | SCALE SHOWN | | BLDG NO. 1 | | INDEX NO. |
| CLASSIFICATION | | BY | DRAWING NUMBER | | | SHEET | OF |
| NONE | | NOT REQD | H-2-120421 | | | 2 | 3 |
| | | | | | | | 0 |


DISTRIBUTION CODE: 403

M240 ACAD

INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|--|-----------------|--|--|-------------------------|----------|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120421C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001 TU-130-002 CART DRIVE COUPLING DETAILS</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CP</i> | 11-3-92 | <p>PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT</p> | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> | 11-3-92 | | | | | | |
| CHECKED E. GARCIA <i>EL</i> | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | | |
| DRAWN S.L. REGACHO | 9-23-91 | SCALE 2/1 | BLDG NO. 1 | INDEX NO. | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | | |
| NONE | NOT REQD | H-2-120421 | 3 | 3 | 0 | | |

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DISTRIBUTION CODE: 403

M241 ACAD

INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | | | | |
|------------------------|----------|---|--|---|---------|-------|--------------------|------|-----------|------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA | | | |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | | | | |
| CADFILE | B120422A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | | | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office</p> <p>DE - AC06-B6RL10838</p> | | | | | | | | |
| REV _____ DATE _____ | | | | | | | | | | |
| ERO _____ | |  <p>FLUOR DANIEL, INC.</p> <p>ADVANCED TECHNOLOGY DIVISION</p> | | | | | | | | |
| SIGNATURE | | | | | | | | DATE | | |
| PROJ DIR | | NA | <p>TU-130-001/002</p> <p>EMERGENCY PULL ROPE</p> <p>ASSY</p> <p>PARTS LIST & NOTES</p> | | | | | | | |
| QA MGR | | NA | | | | | | | | |
| INDEPENDENT SAFETY MGR | | NA | | | | | | | | |
| PROJECT MGR | | NA | | | | | | | | |
| SYSTEMS MGR | | NA | | | | | | | | |
| ENGINEERING MGR | | NA | | | | | | | | |
| SUPERVISOR | | C. DIVONA <i>cpw</i> | 11-3-92 | <p>PROJECT TITLE</p> <p>HANFORD WASTE VITRIFICATION PLANT</p> | | | | | | |
| DESIGN ENGINEER | | R. CHOATE <i>RC</i> | 11-3-92 | | | | | | | |
| G INDEX | CHECKED | | E. GARCIA <i>JK</i> | 11-2-92 | PROJECT | B-595 | FLUOR CONTRACT NO. | 8457 | CWBS NO. | P06B |
| | DRAWN | | EYBARRA | 1/14/92 | SCALE | NONE | BLDG NO. | 1 | INDEX NO. | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | | SHEET | OF | REV | | |
| NONE | | NOT REQD | H-2-120422 | | | 1 | 3 | 0 | | |

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DISTRIBUTION CODE: 403

M242 ACAD

INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| 0 | 01/6/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|--|--|---------------------------|---|-----------------------------------|-------------------------|----------------|-----------------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120422B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE REV _____ DATE _____ ERO _____ | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 TU-130-002 EMERGENCY PULL ROPE DETAIL | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>Cp</i> 11-3-92 | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> 11-3-92 | | | | | | | |
| G INDEX | CHECKED E. GARCIA <i>EG</i> 11-2-92 | | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN EYBARRA 1/14/92 | | SCALE NONE | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT RECD | DRAWING NUMBER H-2-120422 | | SHEET 2 | OF 3 | REV 0 |

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DISTRIBUTION CODE: 403


M243 ACAD

INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|--|--|---------------------------|---|-------------------------|----|-------------------------------------|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120422C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE REV _____ DATE _____ ERO _____ | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10B38 | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| DA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | TU-130-001 TU-130-002 EMERGENCY PULL ROPE DETAILS | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CW</i> 11-3-92 | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBe</i> 11-3-92 | | | | | | | |
| IG INDEX | CHECKED E. GARCIA <i>EL</i> 11-2-92 | | | PROJECT B-595 | | FLUOR CONTRACT NO. 8457 | |
| | DRAWN EYBARRA 1/14/92 | | | SCALE 1/4 | | BLDG NO. 1 | |
| CLASSIFICATION NONE | | | BY NOT REQD | | | DRAWING NUMBER H-2-120422 | |
| | | | SHEET 3 | | | OF 3 | |
| | | | | | | REV 0 | |

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DISTRIBUTION CODE: 403

M244 ACAD

INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|-----------------------------------|---------------------|---------------------------|--|----------------------|-----------|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120423A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE -- AC06-86RL10B38 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001/002 DOLLY PSNG GUIDE ASSEMBLY PARTS LIST & NOTES | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT B-595 | | | | |
| R. CHOATE <i>RC</i> | | 11-3-92 | | | | | |
| INDEX | CHECKED | | FLUOR CONTRACT NO. | | CWBS NO. | | |
| | E. GARCIA <i>EG</i> | 11-2-92 | 8457 | | P06B | | |
| | DRAWN | | BLDG NO. | | INDEX NO. | | |
| | L.C. SANVICTORES | 11/14/91 | 1 | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120423 | | 1 | 1 | 0 |

DISTRIBUTION CODE: 403


M245 ACAD

INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|----------------------------|----------|---------------------------|---|----------------------|----------|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120424A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office</p> <p>DE - AC06-86RL10838</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR | | |  <p>FLUOR DANIEL, INC.</p> <p>ADVANCED TECHNOLOGY DIVISION</p> | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | <p>TU-130-001/002</p> <p>STRUCTURAL TBG</p> <p>WELDMENT</p> <p>PARTS LIST AND NOTES</p> | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | <p>PROJECT TITLE</p> <p>HANFORD WASTE VITRIFICATION PLANT</p> | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | <p>PROJECT</p> <p>B-595</p> | | | | |
| C. DIVONA | | | | | | | |
| DESIGN ENGINEER | | | FLUOR CONTRACT NO. | | CWBS NO. | | |
| R. CHOATE | | | 8457 | | P06B | | |
| CHECKED | | | SCALE | | BLDG NO. | | |
| E. GARCIA | | | NONE | | 1 | | |
| DRAWN | | | DRAWING NUMBER | | SHEET | | |
| EYBARRA | | | H-2-120424 | | 1 | | |
| CLASSIFICATION | | | BY | | OF | | |
| NONE | | | NOT RECD | | 1 | | |
| | | | | | REV | | |
| | | | | | 0 | | |

DISTRIBUTION CODE: 403


M246 ACAD

INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|-----------------------------------|-----------|--|---|----------------------|-----------|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120425A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office</p> <p>DE - AC06-B6RL10838</p> | | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  <p>FLUOR DANIEL, INC.</p> <p>ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001/002</p> <p>SPIDER DRIVE COUPLING ASSY</p> <p>PARTS LIST & NOTES</p> | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| G INDEX | CHECKED | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| | E. GARCIA | 11-2-92 | B-595 | 8457 | P06B | | |
| | DRAWN | | SCALE | BLDG NO. | INDEX NO. | | |
| | P. ASHLEY | 02-18-92 | 1/1 | 1 | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT RECD | H-2-120425 | | 1 | 3 | 0 |

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INITIALS: PN

DATE: 03-16-93


DISTRIBUTION CODE: 403

M247 ACAD

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QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

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|-----------------------------------|----------|---------------------------|--|----------------------|--------------------------------|----|------------------------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120425B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 TU-130-002 SPIDER DRIVE COUPLING DETAILS | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | PROJECT B-595 | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| CHECKED | | | SCALE 1/1 | | BLDG NO. 1 | | |
| E. GARCIA | | 11-2-92 | INDEX NO. | | | | |
| DRAWN | | | DRAWING NUMBER H-2-120425 | | | | |
| P. ASHLEY | | 02-18-92 | SHEET 2 | | OF 3 | | REV 0 |
| CLASSIFICATION | | BY | | | | | |
| NONE | | NOT REQD | | | | | |

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INITIALS: PN
DATE: 03-16-93


DISTRIBUTION CODE: 403

M248 ACAD

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QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

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|------------------------|----------|---------------------------|--|----------------------|--------------------------------|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120425C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-B6RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 TU-130-002 SPIDER DRIVE COUPLING DETAILS | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED | | | | | | | |
| E. GARCIA | | 11-2-92 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| DRAWN | | | SCALE 1/1 | | BLDG NO. 1 | | |
| P. ASHLEY | | 02-18-92 | | | INDEX NO. | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT RECD | H-2-120425 | | 3 | 3 | 0 |

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DISTRIBUTION CODE: 403

M249 ACAD

1 INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|-----------------------------------|----------|---------------------------|--|----------------------|----|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | RB | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120426A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | TU-130-001/002 DOLLY WHEEL ASSEMBLIES PARTS LIST & NOTES | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT B-595 | | | | |
| C. DIVONA (CJD) | | 11/3/92 | | | | | |
| DESIGN ENGINEER | | | FLUOR CONTRACT NO. 8457 | | | | |
| R. CHOATE (RBC) | | 11/3/92 | | | | | |
| CHECKED | | | CWBS NO. P06B | | | | |
| R. BIANCHI (RBC) | | 11/2/92 | | | | | |
| DRAWN | | | SCALE 1/2 | | | | |
| E. GARCIA | | 03/23/92 | | | | | |
| CLASSIFICATION | | | BLDG NO. 1 | | | | |
| NONE | | | | | | | |
| BY | | | INDEX NO. | | | | |
| NOT RECD | | | | | | | |
| DRAWING NUMBER | | | SHEET | | OF | | REV |
| H-2-120426 | | | 1 | | 3 | | 0 |

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DISTRIBUTION CODE: 403


M250 ACAD

INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|--|----------------------------------|---------------------------|--|-------------------------|-----------------------------------|-------------------------|-----------------|
| 0 | C4 06/93 | APPROVED FOR CONSTRUCTION | RB | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120426B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE REV _____ DATE _____ ERO _____ | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | TU-130-001 TU-130-002 DOLLY WHEEL DETAILS | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA C/D 11/3/92 | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE KBC 11/3/92 | | | | | | | |
| G INDEX | CHECKED R. BIANCHI RL 11/2/92 | | | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | |
| | DRAWN E. GARCIA 1-16-92 | | | SCALE 1/2 | BLDG NO. 1 | INDEX NO. | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120426 | | SHEET 2 | OF 3 | REV 0 |

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DISTRIBUTION CODE: 403

M251 ACAD

INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

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|------------------------|----------|---------------------------|--|----------------------|-------|----|-----|
| 0 | 04/26/93 | APPROVED FOR CONSTRUCTION | RB | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120426C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p align="center">U.S. DEPARTMENT OF ENERGY</p> <p align="center">Richland Field Office DE - AC06-86RL10838</p> <p align="center"> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p align="center">TU-130-001 TU-130-002 DOLLY WHEEL DETAILS</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA <i>CD</i> | | 11/3/92 | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE <i>RC</i> | | 11/3/92 | | | | | |
| CHECKED | | | | | | | |
| R. BIANCHI <i>RB</i> | | 11/2/92 | | | | | |
| DRAWN | | | | | | | |
| E. GARCIA | | 01-16-92 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT RECD | H-2-120426 | | 3 | 3 | 0 |


DISTRIBUTION CODE: 403

M252 ACAD

INITIALS: PN
DATE: 03-16-93

APR 8 - 1993

QUALITY LEVEL II
SAFETY CLASS 3

| | | | | | | | |
|-----------------------------------|----------|---------------------------|--|----------------------|----|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120427A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 TU-130-002 CANISTER CENTERING GUIDE ASSEMBLY | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT B-595 | | | | |
| C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | FLUOR CONTRACT NO. 8457 | | | | |
| R. CHOATE <i>RC</i> | | 11-3-92 | | | | | |
| CHECKED | | | CWBS NO. P06B | | | | |
| E. GARCIA <i>EG</i> | | 11-2-92 | | | | | |
| DRAWN | | | BLDG NO. 1 | | | | |
| L.C. SANVICTORES | | 05/07/92 | | | | | |
| CLASSIFICATION | | | INDEX NO. 1 | | | | |
| NONE | | | | | | | |
| BY | | | DRAWING NUMBER H-2-120427 | | | | |
| NOT REQD | | | | | | | |
| | | | SHEET 1 | | | | |
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| | | | OF 4 | | | | |
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| | | | REV 0 | | | | |
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DISTRIBUTION CODE: 403


M253 ACAD

INITIALS: PN
DATE: 03-16-93

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778 79 80

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|---|--------------------------------|---------------------------|--|-----------------------------------|-------------------------|----|-----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120427B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE _____ | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 TU-130-002 CANISTER CENTERING GUIDE ASSEMBLY | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CW</i> | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| INDEX | CHECKED E. GARCIA <i>EG</i> | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN L.C. SANVICTORES | 05/07/92 | SCALE 1/1 | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120427 | | 2 | 4 | 0 |


DISTRIBUTION CODE: 403

M254 ACAD

INITIALS: PN
DATE: 03-16-93

APR 8 - 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RBC | CD | NA | NA |
|------------------------|----------|--|---|----------------------|-------|----|-----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120427C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY | | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | Richland Field Office DE - AC06-86RL10838 | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 TU-130-002 CANISTER CENTERING GUIDE DETAILS | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA <i>CJD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE <i>RBC</i> | | 11-3-92 | PROJECT B-595 FLUOR CONTRACT NO. 8457 CWBS NO. P06B | | | | |
| CHECKED | | | | | | | |
| E. GARCIA <i>EG</i> | | 11-2-92 | | | | | |
| DRAWN | | | SCALE SHOWN BLDG NO. 1 INDEX NO. | | | | |
| L.C. SANVICTORES | | 05/07/92 | | | | | |
| | | | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT RECD | H-2-120427 | | 3 | 4 | 0 |

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M255 ACAD

INITIALS: PN
DATE: 03-16-93

7 78 79 80

APR 8 - 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|------------------------|----------|--|-------------------|-------|----------------------|-----|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | | B120427D | CADCODE | | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | <p align="center">U.S. DEPARTMENT OF ENERGY</p> <p align="center">Richland Field Office DE -- AC06-B6RL10838</p> <p align="center"> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p align="center">TU-130-001 TU-130-002 CANISTER CENTERING GUIDE DETAILS</p> | | | | | |
| REV | DATE | | | | | | |
| ERO | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | 11-3-92 | | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | 11-3-92 | | | | | | |
| CHECKED | | | | | | | |
| E. GARCIA | 11-2-92 | | | | | | |
| DRAWN | | | | | | | |
| L.C. SANVICTORES | 05/07/92 | | | | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | | SHEET | OF | REV | |
| NONE | NOT RECD | H-2-120427 | | 4 | 4 | 0 | |


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M256 ACAD

INITIALS: PN
DATE: 03-16-93


QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|--|----------|---------------------------|--|-----------------------|--------------------------------|------------------------|----------------------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120428A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | TU-130-001 TU-130-002 SCALE PLATFORM ASSEMBLY | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED E. GARCIA <i>EG</i> | | 11-2-92 | | | | | |
| DRAWN BOB HUSTON | | 7/23/91 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| CLASSIFICATION NONE | | BY NOT REOD | SCALE 1/4 | | BLDG NO. 1 | | INDEX NO. |
| DRAWING NUMBER H-2-120428 | | SHEET 1 | | OF 4 | | REV 0 | |

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|--|--------------------------------|---------------------------|---|-----------------------------------|-------------------------|----------------|-----------------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120428B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE REV _____ DATE _____ ERO _____ | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001 TU-130-002 SCALE PLATFORM WELDMENT</p> | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | <p>PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT</p> | | | | |
| SUPERVISOR C. DIVONA <i>C/D</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| G INDEX | CHECKED E. GARCIA <i>EL</i> | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN BOB HUSTON | 7/16/91 | SCALE 1/4 | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120428 | | SHEET 2 | OF 4 | REV 0 |

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M258 ACAD

INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| 0 | 04/66/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA | |
|---|----------|---------------------------|--|----------------------|----|-------------------|----------------|-----------------|
| | | | NA | NA | NA | NA | NA | |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | | |
| CADFILE | B120428C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | | |
| REV _____ DATE _____ | | | | | | | | |
| ERO _____ | | | Richland Field Office DE - ACD6-B6RL10B38 | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | | |
| PROJ DIR NA | | | | | | | | |
| QA MGR NA | | | TU-130-001 TU-130-002 SCALE PLATFORM RAILS | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | | |
| PROJECT MGR NA | | | | | | | | |
| SYSTEMS MGR NA | | | | | | | | |
| ENGINEERING MGR NA | | | HANFORD WASTE VITRIFICATION PLANT | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11-3-92 | | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | | 11-3-92 | PROJECT B-595 FLUOR CONTRACT NO. 8457 CWBS NO. P06B | | | | | |
| CHECKED E. GARCIA <i>gc</i> | | 11-2-92 | | | | | | |
| DRAWN BOB HUSTON | | 7/16/91 | SCALE SHOWN BLDG NO. 1 INDEX NO. | | | | | |
| CLASSIFICATION | | BY | | | | | | |
| NONE | | NOT RECD | DRAWING NUMBER H-2-120428 | | | SHEET 3 | OF 4 | REV 0 |

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DISTRIBUTION CODE: 403


M259 ACAD

INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993


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|---|--------------------------------|---------------------------|---|-----------------------------------|-------------------------|----------------|-----------------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120428D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 TU-130-002 SCALE PLATFORM DETAILS | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| G INDEX | CHECKED E. GARCIA <i>EL</i> | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN JOHN HUSTON | 7/16/91 | SCALE SHOWN | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT RECD | DRAWING NUMBER H-2-120428 | | SHEET 4 | OF 4 | REV 0 |

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QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|------------------------------|----------------------|---------------------------|--|----------------------------|------------------|------------|----------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120429A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001 TU-130-002 SCALE ASSEMBLY</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE | | 11-3-92 | | | | | |
| G INDEX | CHECKED E. GARCIA | 11-2-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| | DRAWN J. SACHS | 7/30/91 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | | | SCALE NONE | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120429 | | | SHEET 1 | OF 11 |
| | | | | | | REV 0 | |

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DISTRIBUTION CODE: 403

M261 ACAD

INITIALS: PN


DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

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| | | | | | | | |
|-----------------------------------|-----------|---------------------------|--|----------------------|-----------|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120429B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10B38 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | TU-130-001 TU-130-002 SCALE ASSEMBLY | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT B-595 | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| INDEX | CHECKED | | FLUOR CONTRACT NO. | | CWBS NO. | | |
| | E. GARCIA | 11-2-92 | 8457 | | P06B | | |
| | DRAWN | | BLDG NO. | | INDEX NO. | | |
| | J. SACHS | 8/6/91 | 1 | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120429 | | 2 | 11 | 0 |

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DISTRIBUTION CODE: 403

M262 ACAD

INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| 0 | 04/16/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|------------------------|-----------------|---------------------------|---|----------------------|-------------|----|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120429C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p align="center">U.S. DEPARTMENT OF ENERGY</p> <p align="center">Richland Field Office DE - AC06-86RL10838</p> <p align="center">  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION </p> <p align="center"> TU-130-001 TU-130-002 SCALE ASSEMBLY BASE WELDMENT </p> | | | | |
| REV | DATE | | | | | | |
| ERO | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | <p align="center">PROJECT TITLE</p> <p align="center">HANFORD WASTE VITRIFICATION PLANT</p> | | | | |
| DESIGN ENGINEER | | | | | | | |
| C. DIVONA | 11-3-92 | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| R. CHOATE | 11-3-92 | | B-595 | 8457 | P06B | | |
| E. GARCIA | 11-2-92 | | SCALE | BLDG NO. | INDEX NO. | | |
| J. SACHS | 7/22/91 | | SHOWN | 1 | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | | |
| NONE | NOT REQD | H-2-120429 | 3 | 11 | 0 | | |

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INITIALS: PN
DATE: 03-16-93

DISTRIBUTION CODE: 403

M263 ACAD

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

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|------------------------|----------|---------------------------|--|----------------------|----|----|-----|
| 0 | 04/6/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120429D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | TU-130-001 TU-130-002 SCALE ASSEMBLY BASE WELDMENT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT B-595 | | | | |
| C. DIVONA <i>CP</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | FLUOR CONTRACT NO. 8457 | | | | |
| R. CHOATE <i>RC</i> | | 11-3-92 | | | | | |
| CHECKED | | | CWBS NO. P06B | | | | |
| E. GARCIA <i>EG</i> | | 11-2-92 | | | | | |
| DRAWN | | | SCALE 1/4 | | | | |
| J. SACHS | | 7/23/91 | | | | | |
| CLASSIFICATION | | | BLDG NO. 1 | | | | |
| NONE | | | | | | | |
| BY | | | INDEX NO. 0 | | | | |
| NOT REOD | | | | | | | |
| DRAWING NUMBER | | | SHEET | | OF | | REV |
| H-2-120429 | | | 4 | | 11 | | 0 |

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M264 ACAD


INITIALS: PN

DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|-----------------------------------|----------|---------------------------|---|----------------------|--------------------------------|----|-----|
| 0 | 01/66/93 | APPROVED FOR CONSTRUCTION | VEG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120429E | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 TU-130-002 SCALE ASSEMBLY BASE WELDMENT | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | PROJECT B-595 | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| CHECKED | | | SCALE 1/2 | | BLDG NO. 1 | | |
| E. GARCIA | | 11-2-92 | | | INDEX NO. | | |
| DRAWN | | | | | | | |
| J. SACHS | | 6/25/91 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120429 | | 5 | 11 | 0 |


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APR 8 - 1993

QUALITY LEVEL II

SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|--|----------------------|----|----|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120429F | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 TU-130-002 SCALE ASSEMBLY BASE WELDMENT | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | SCALE ASSEMBLY BASE WELDMENT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA <i>CJD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT B-595 FLUOR CONTRACT NO. 8457 CWBS NO. P06B | | | | |
| R. CHOATE <i>RC</i> | | 11-3-92 | | | | | |
| CHECKED | | | | | | | |
| E. GARCIA <i>EL</i> | | 11-2-92 | | | | | |
| DRAWN | | | SCALE 1/2 BLDG NO. 1 INDEX NO. | | | | |
| J. SACHS | | 7/3/91 | | | | | |
| CLASSIFICATION | | | | | | | |
| NONE | | | | | | | |
| BY | | | DRAWING NUMBER H-2-120429 SHEET 6 OF 11 REV 0 | | | | |
| NOT RECD | | | | | | | |
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M266 ACAD


INITIALS: PN

DATE: 03-16-93



QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993


| | | | | | | | |
|---|--------------------------------|---------------------------|--|-----------------------------------|-------------------------|-----------------|-----------------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120429G | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | TU-130-001 TU-130-002 SCALE ASSEMBLY BASE WELDMENT | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>gp</i> | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| INDEX | CHECKED E. GARCIA <i>JE</i> | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN J. SACHS | 7/10/91 | SCALE 1/4 | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT RECD | DRAWING NUMBER H-2-120429 | | SHEET 7 | OF 11 | REV 0 |

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QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993


| 0 | 04/16/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|------------------------|----------|---------------------------|--|----------------------|------------------|----|-----------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120429H | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | TU-130-001 TU-130-002 SCALE ASSEMBLY DETAILS | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE | | | | |
| C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT | | | | |
| R. CHOATE <i>RC</i> | | 11-3-92 | | | | | |
| CHECKED | | | FLUOR CONTRACT NO. | | CWBS NO. | | |
| E. GARCIA <i>EG</i> | | 11-2-92 | | | | | |
| DRAWN | | | BLDG NO. | | INDEX NO. | | |
| J. SACHS | | 7/2/91 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | | OF |
| NONE | | NOT RECD | | | | | |
| | | | H-2-120429 | | 8 | | 11 |
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QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993


| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|---|-------------------------------------|---------------------------|---|-----------------------------------|-------------------------|----|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120429J | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p align="center">U.S. DEPARTMENT OF ENERGY</p> <p align="center">Richland Field Office DE - AC06-86RL10838</p> <p align="center"> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p align="center">TU-130-001 TU-130-002 SCALE ASSEMBLY DETAILS</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CJD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| INDEX | CHECKED E. GARCIA <i>EG</i> | 11-2-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| | DRAWN J. SACHS | 7/8/91 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | CLASSIFICATION NONE | BY NOT RECD | SCALE SHOWN | BLDG NO. 1 | INDEX NO. | | |
| | DRAWING NUMBER H-2-120429 | | SHEET 9 | OF 11 | REV 0 | | |

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QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| 0 | 04/66/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|------------------------|---------------------|--|---|----------------------|----|----|-----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120429K | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY | | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | Richland Field Office DE - AC06-86RL10838 | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 TU-130-002 SCALE ASSEMBLY DETAILS | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | PROJECT TITLE | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | FLUOR CONTRACT NO. | | | | |
| C. DIVONA <i>CP</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | CWBS NO. | | | | |
| R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| G INDEX | CHECKED | | BLDG NO. | | | | |
| | E. GARCIA <i>EG</i> | 11-2-92 | | | | | |
| DRAWN | | | INDEX NO. | | | | |
| J. SACHS | | 7/18/91 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | | | |
| NONE | | NOT REOD | H-2-120429 | | | | |
| | | | SHEET | | OF | | REV |
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INITIALS: PN

DATE: 03-16-93


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QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993


| 0 | 04/66/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|------------------------|----------|---|-------------------|----------------------|-----|----|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120429L | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | <p align="center">U.S. DEPARTMENT OF ENERGY</p> <p align="center">Richland Field Office DE - AC06-86RL10838</p> <p align="center"> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p align="center">TU-130-001 TU-130-002 SCALE ASSEMBLY DETAILS</p> | | | | | |
| REV | DATE | | | | | | |
| ERO | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | 11-3-92 | | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | 11-3-92 | | | | | | |
| CHECKED | | | | | | | |
| E. GARCIA | 11-2-92 | | | | | | |
| DRAWN | | | | | | | |
| J. SACHS | 7-15-91 | | | | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | | |
| NONE | NOT REQD | H-2-120429 | 11 | 11 | 0 | | |

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QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993


| 0 | 01/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|--|--------------------------------|---------------------------|--|-----------------------------------|-------------------------|----------|----------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120430A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY | | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE | Richland Field Office DE - AC06-B6RL10838 | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | TU-130-001 TU-130-002 LOAD CELL PARTS LIST & NOTES | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11-3-92 | PROJECT TITLE HANFORD WASTE VTRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> | | 11-3-92 | | | | | |
| INDEX | CHECKED E. GARCIA <i>EL</i> | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN JOHN H. SACHS | 8-20-91 | SCALE SHOWN | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT RECD | H-2-120430 | | 1 | 3 | 0 |

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QUALITY LEVEL II
SAFETY CLASS 3

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|-----------------------------------|----------|---------------------------|--|----------------------|-------------|----|-----|
| 0 | 04/6/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120430B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10B38 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 TU-130-002 LOAD CELL BASE WELDMENT | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | PROJECT TITLE | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | B-595 | | | | |
| CHECKED | | | | | | | |
| E. GARCIA | | 11-2-92 | FLUOR CONTRACT NO. | | CWBS NO. | | |
| | | | 8457 | | P06B | | |
| DRAWN | | | BLDG NO. | | INDEX NO. | | |
| JOHN H. SACHS | | 8-16-91 | 1 | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120430 | | 2 | 3 | 0 |

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INITIALS: PN

DATE: 03-16-93


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QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993


| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|---|----------|---------------------------|--|-----------------------------------|-------------------------|----------------|-----------------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120430C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE _____ DATE _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | TU-130-001 TU-130-002 LOAD CELL DETAILS | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CP</i> 11-3-92 | | | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> 11-3-92 | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| CHECKED E. GARCIA <i>EL</i> 11-2-92 | | | | | | | |
| DRAWN JOHN H. SACHS 8-13-91 | | | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | | | SCALE SHOWN | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120430 | | SHEET 3 | OF 3 | REV 0 |

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QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

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| 0 | 04/16/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120450A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERD _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | TU-130-001/002 ENCLOSURE ASSEMBLIES PARTS LIST & NOTES | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR C. DIVONA <i>CP</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED E. GARCIA <i>EG</i> | | 11-2-92 | | | | | |
| DRAWN EYBARRA | | 2/24/92 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| CLASSIFICATION NONE | | BY NOT RECD | SCALE 1/4 | | BLDG NO. 1 | | INDEX NO. |
| DRAWING NUMBER H-2-120450 | | SHEET 1 | | OF 2 | | REV 0 | |


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DATE: 03-16-93

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|--|--------------------------------|---------------------------|--|-----------------------------------|-------------------------|----------------|-----------------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
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| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE | Richland Field Office DE - AC06-B6RL10838 | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | TU-130-001 TU-130-002 ENCLOSURE ASSEMBLIES | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| G INDEX | CHECKED E. GARCIA <i>EG</i> | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN EYBARRA | 2/24/92 | SCALE 1/4 | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120450 | | SHEET 2 | OF 2 | REV 0 |

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INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

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| | | | | | | | |
|---|--------------------------------|---------------------------|---|----------------------------|------------------|---------|----------|
| 0 | 04/6/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120451A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>TU-130-001 TU-130-002 FLEXIBLE METAL HOSE ASSY PARTS LIST AND NOTES</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CP</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| INDEX | CHECKED E. GARCIA <i>EL</i> | 11-2-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| | DRAWN L. TOTH | 03/12/92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | | | SCALE SHOWN | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120451 | | SHEET 1 | OF 1 | REV 0 |

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INITIALS: PN
DATE: 03-16-93

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QUALITY LEVEL II
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APR 8 - 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|--|--------------------------|---------------------------|---|----------------------|----------------------------|------------|------------------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120452A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE REV _____ DATE _____ ERO _____ | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10B38 | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | TU-130-001 SUPPORT STRUCTURE ASSEMBLY | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA 9/2 | | | 11-3-92 | | | | |
| DESIGN ENGINEER R. CHOATE 9/2 | | | 11-3-92 | | | | |
| INDEX | CHECKED E. GARCIA 9/2 | | PROJECT B-595 | | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B |
| | DRAWN R. LoLONDE | | SCALE SHOWN | | BLDG NO. 1 | | INDEX NO. |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120452 | | | SHEET 1 | OF 4 |
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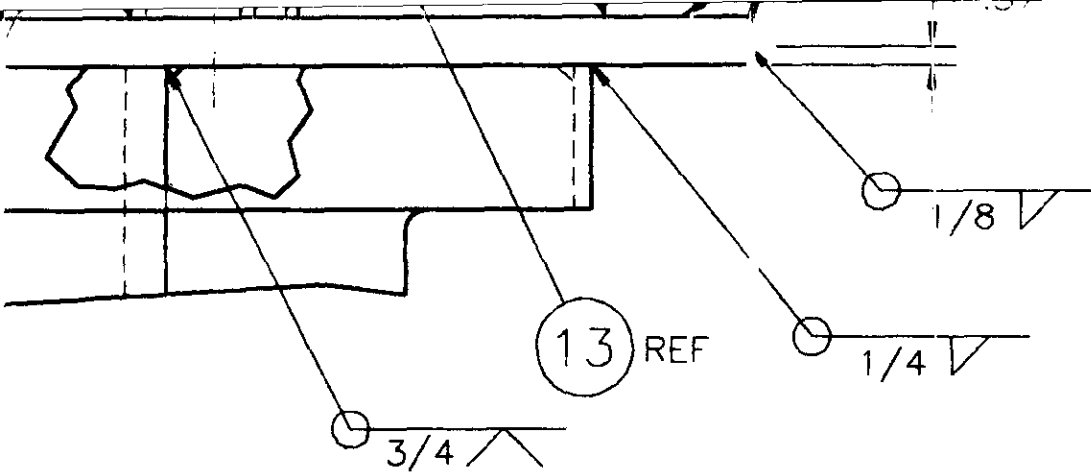
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INITIALS: PN
DATE: 03-16-93



QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|-----------------------------------|----------------------|---------------------------|---|-----------------------------------|-------------------------|----------------|-----------------|
| 0 | 01/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120452B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10B38 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 SUPPORT STRUCTURE DETAILS | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA | | 11-3-92 | PROJECT TITLE HANFORD WASTE VTRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE | | 11-3-92 | | | | | |
| INDEX | CHECKED E. GARCIA | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN R. LoLONDE | 05/08/92 | SCALE 1/8 | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120452 | | SHEET 2 | OF 4 | REV 0 |

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QUALITY LEVEL II
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| 0 | 01/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|------------------------|----------|--|--|----------------------|----|----|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120452C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY | | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | Richland Field Office DE - AC06-86RL10B38 | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | TU-130-001 SUPPORT STRUCTURE DETAILS | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED | | | | | | | |
| E. GARCIA | | 11-2-92 | FLUOR CONTRACT NO. 8457 | | | | |
| DRAWN | | | | | | | |
| R. LaLONDE | | 05/08/92 | CWBS NO. P06B | | | | |
| CLASSIFICATION | | | | | | | |
| NONE | | | SCALE SHOWN | | | | |
| BY | | | | | | | |
| NOT RECD | | | BLDG NO. 1 | | | | |
| DRAWING NUMBER | | | | | | | |
| H-2-120452 | | | INDEX NO. P06B | | | | |
| SHEET | | | | | | | |
| 3 | | | OF 4 | | | | |
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QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993


| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|--|----------------------|------------------|--------------|-----------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120452D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10B38 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | TU-130-001 SUPPORT STRUCTURE DETAILS | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT B-595 | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | FLUOR CONTRACT NO. | | CWBS NO. | | |
| E. GARCIA | | 11-2-92 | 8457 | | P0608 | | |
| DRAWN | | | BLDG NO. | | INDEX NO. | | |
| R. LaLONDE | | 05/09/92 | 1 | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | | SHEET | OF |
| NONE | | NOT RECD | H-2-120452 | | | 4 | 4 |
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SAFETY CLASS 3

APR 8 - 1993

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|---|--------------------------------|---------------------------|--|-----------------------------------|-------------------------|----------------|-----------------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120460A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | TU-130-001 PTT DIMENSIONAL RECORD DRAWING | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11-3-92 | HANFORD WASTE VTRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| INDEX | CHECKED E. GARCIA <i>21</i> | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN P. ASHLEY | 04/09/92 | SCALE NONE | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120460 | | SHEET 1 | OF 3 | REV 0 |


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|-----------------------------------|----------|---------------------------|--|----------------------|----|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA |
| CADFILE | B120460B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION TU-130-001 PTT DIMENSIONAL RECORD DRAWING | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED | | | | | | | |
| E. GARCIA | | 11-2-92 | FLUOR CONTRACT NO. 8457 | | | | |
| DRAWN | | | | | | | |
| P. ASHLEY | | 04/13/92 | BLDG NO. 1 | | | | |
| CLASSIFICATION | | | | | | | |
| NONE | | NOT RECD | DRAWING NUMBER H-2-120460 | | | | |
| | | | | | | | |
| | | | SHEET 2 | | | | |
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| | | | OF 3 | | | | |
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| | | | REV 0 | | | | |
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QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

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|---|--|---------------------------|--|----------------------|-------------------------|----------|----|
| 0 | 04/16/93 | APPROVED FOR CONSTRUCTION | EG | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
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| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE _____ DATE _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | TU-130-001 PTT DIMENSIONAL RECORD DRAWING | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CP</i> 11-3-92 | | | | | | | |
| DESIGN ENGINEER R. CHOATE <i>ABC</i> 11-3-92 | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| INDEX | CHECKED E. GARCIA <i>EL</i> 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| | DRAWN P. ASHLEY 04/16/92 | SCALE NONE | BLDG NO. 1 | | INDEX NO. | | |
| CLASSIFICATION | BY | DRAWING NUMBER | | SHEET | OF | REV | |
| NONE | NOT RECD | H-2-120460 | | 3 | 3 | 0 | |


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|---|--------------------------------|-----------------------|-------------------------------------|--|-------------------------|----------------|-----------------|
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| SIGNATURE | | DATE | | Richland Field Office DE - AC06-86RL10838 | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | RA-130-009/010 TRACK & CATCH PAN ASSEMBLY PARTS LIST & NOTES | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CP</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | | 11-3-92 | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | |
| INDEX | CHECKED E. CARCIA <i>92</i> | 11-2-93 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN C. PEASE | 11-19-91 | SCALE SHOWN | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120550 | | SHEET 1 | OF 6 | REV 0 |

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QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993


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|--|--|---------------------------|--|----------------------|-------------------------|----------------|-----------------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EC | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120550B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE _____ DATE _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | RA-130-009/010 TRACK & CATCH PAN DETAILS | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> 11-3-92 | | | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> 11-3-92 | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| G INDEX | CHECKED E. CARCIA <i>EC</i> 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| | DRAWN C. PEASE 11-19-91 | SCALE SHOWN | BLDG NO. 1 | | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT RECD | DRAWING NUMBER H-2-120550 | | SHEET 2 | OF 6 | REV 0 |

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QUALITY LEVEL II
SAFETY CLASS 3

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| 0 | 04/66/93 | APPROVED FOR CONSTRUCTION | EC | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|---|----------------------|----|----|-----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
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| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION RA-130-009/010 TRACK & CATCH PAN RAIL DETAILS | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | RA-130-009/010 TRACK & CATCH PAN RAIL DETAILS | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | PROJECT B-595 FLUOR CONTRACT NO. 8457 CWBS NO. P06B | | | | |
| CHECKED | | | | | | | |
| E. CARCIA | | 11-2-92 | SCALE 1/2 BLDG NO. 1 INDEX NO. | | | | |
| DRAWN | | | | | | | |
| C. PEASE | | 11-18-91 | CLASSIFICATION NONE | | | | |
| BY | | | | | | | |
| NOT REQD | | | DRAWING NUMBER H-2-120550 | | | | |
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INITIALS: PN
DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

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|------------------------|----------|---------------------------|--|----------------------|--------------------------------|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EC | RC | CD | NA | NA |
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| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120550D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | RA-130-009/010 TRACK & CATCH PAN RAIL DETAILS | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED | | | | | | | |
| E. CARCIA | | 11-2-92 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| DRAWN | | | BLDG NO. 1 | | INDEX NO. | | |
| C. PEASE | | 11-18-91 | SCALE 1/2 | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120550 | | 4 | 6 | 0 |


DISTRIBUTION CODE: 403

M288 ACAD

INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EC | RC | CD | NA | NA |
|-----------------------------------|----------|--|---|----------------------|--|----|------------------------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120550E | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | RA-130-009/010 TRACK & CATCH PAN DETAILS | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA <i>cp</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE <i>RC</i> | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED | | | | | | | |
| E. CARCIA <i>EC</i> | | 11-2-92 | | | | | |
| DRAWN | | | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| C. PEASE | | 11-19-91 | BLDG NO. 1 | | INDEX NO. | | |
| CLASSIFICATION | | BY | SCALE 1/2 | | DRAWING NUMBER H-2-120550 | | |
| NONE | | NOT RECD | SHEET 5 | | OF 6 | | REV 0 |

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DISTRIBUTION CODE: 403

M289 ACAD

INITIALS: PN

DATE: 03-16-93


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QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

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|--|--------------------------------|---|--|----------------------|-------------------------|----------------|-----------------|
| 0 | 07/06/93 | APPROVED FOR CONSTRUCTION | EC | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120550F | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>RA-130-009/010 TRACK & CATCH PAN DETAILS</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> | 11-3-92 | PROJECT B-595 | | | | | |
| INDEX | CHECKED E. CARCIA <i>EC</i> | 11-2-92 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| | DRAWN C. PEASE | 11-18-91 | SCALE 1/2 | | BLDG NO. 1 | | INDEX NO. |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120550 | | SHEET 6 | OF 6 | REV 0 |

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DISTRIBUTION CODE: 403


M290 ACAD

INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EC | CC | CD | NA | NA |
|----------------------------|----------|--|-------------------|----------------------|----|-----------------------|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120552A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR | | RA-130-009/010 TRUNNION CAP ASSEMBLY PARTS LIST & NOTES | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | | |
| PROJECT MGR | | | | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | PROJECT B-595 | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | FLUOR CONTRACT NO. | | CWBS NO. | | | |
| C. DIVONA | | 8457 | | P06B | | | |
| DESIGN ENGINEER | | SCALE | | BLDG NO. | | | |
| C. CHOATE | | SHOWN | | 1 | | | |
| CHECKED | | INDEX NO. | | | | | |
| E. CARCIA | | | | | | | |
| DRAWN | | CLASSIFICATION | | BY | | DRAWING NUMBER | |
| C. PEASE | | NONE | | NOT REQD | | H-2-120552 | |
| | | | | | | SHEET | |
| | | | | | | OF | |
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QUALITY LEVEL II

APR 8 - 1993

SAFETY CLASS 3

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|-------------------------------------|-------------------------------|---------------------------|--|-----------------------------------|-------------------------|----|----|
| 0 | 01/06/93 | APPROVED FOR CONSTRUCTION | EC | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120552B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>RA-130-009/010 TRUNNION CAP DETAILS</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE | | 11-3-92 | | | | | |
| INDEX | CHECKED E. CARCIA | 11-2-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| | DRAWN C. PEASE | 11-19-91 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | CLASSIFICATION NONE | BY NOT REQD | SCALE 1/4 | BLDG NO. 1 | INDEX NO. | | |
| DRAWING NUMBER H-2-120552 | | SHEET 2 | OF 2 | REV 0 | | | |

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DISTRIBUTION CODE: 403


M292 ACAD

INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| 0 | 04/6/93 | APPROVED FOR CONSTRUCTION | EC | RC | CD | NA | NA |
|---|--|---------------------------|---|-----------------------------------|-------------------------|----------------|-----------------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120553A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10B38 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION RA-130-010 SOUTH TRACK & CATCH PAN ASSY PARTS LIST & NOTES | | | | |
| DATE | | | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | RA-130-010 SOUTH TRACK & CATCH PAN ASSY PARTS LIST & NOTES | | | | |
| SUPERVISOR C. DIVONA <i>CP</i> 11-3-92 | | | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> 11-3-92 | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| G INDEX | CHECKED E. CARCIA <i>EC</i> 11-2-92 | | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN C. PEASE 11-19-91 | | SCALE NONE | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT REOD | DRAWING NUMBER H-2-120553 | | SHEET 1 | OF 7 | REV 0 |

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DISTRIBUTION CODE: 403

M293 ACAD


INITIALS: PN

DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|------------------------|---------------------|---------------------------|--|----------------------|-------------|----------|----------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EC | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120553B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-B6RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | RA-130-010 SOUTH TRACK & CATCH PAN ASSEMBLY | | | | |
| C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| R. CHOATE <i>RC</i> | | 11-3-92 | | | | | |
| INDEX | CHECKED | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| | E. CARCIA <i>EC</i> | 11-2-92 | B-595 | 8457 | P06B | | |
| | DRAWN | | SCALE | BLDG NO. | INDEX NO. | | |
| | C. PEASE | 11-19-92 | 1/16 | 1 | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT RECD | H-2-120553 | | 2 | 7 | 0 |

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DISTRIBUTION CODE: 403


M294 ACAD

INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|--|----------|---------------------------|--|-----------------------|--------------------------------|------------------------|------------------|
| 0 | 04/16/93 | APPROVED FOR CONSTRUCTION | EC | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120553C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-B6RL10B38 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | RA-130-010 SOUTH TRACK & CATCH PAN ASSEMBLY | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR C. DIVONA <i>gd</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED E. CARCIA <i>EL</i> | | 11-2-92 | | | | | |
| DRAWN C. PEASE | | 11-19-91 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| CLASSIFICATION NONE | | BY NOT REQD | SCALE SHOWN | | BLDG NO. 1 | | INDEX NO. |
| DRAWING NUMBER H-2-120553 | | SHEET 3 | | OF 7 | | REV 0 | |


DISTRIBUTION CODE: 403

M295 ACAD

INITIALS: PN
- DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|-----------------------------------|----------|---------------------------|--|----------------------|-------------------------|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EC | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120553D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10B38 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION RA-130-010 SOUTH TRACK & CATCH PAN ASSEMBLY | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | RA-130-010 SOUTH TRACK & CATCH PAN ASSEMBLY | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED | | | | | | | |
| E. CARCIA | | 11-2-92 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| DRAWN | | | BLDG NO. 1 | | INDEX NO. | | |
| C. PEASE | | 11-19-91 | SCALE SHOWN | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120553 | | 4 | 7 | 0 |

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DISTRIBUTION CODE: 403

M296 ACAD


INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

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| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EC | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120553E | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>RA-130-010 SOUTH TRACK & CATCH PAN DETAILS</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> | | 11-3-92 | | | | | |
| INDEX | CHECKED E. CARCIA <i>EC</i> | 11-2-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| | DRAWN C. PEASE | 11-19-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | CLASSIFICATION NONE | BY NOT REQD | SCALE 1/2 | BLDG NO. 1 | INDEX NO. | | |
| DRAWING NUMBER H-2-120553 | | SHEET 5 | OF 7 | REV 0 | | | |

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M297 ACAD

INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|--|--------------------------------|---------------------------|---|----------------------|---|----|-----------------------------------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EC | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120553F | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE REV _____ DATE _____ ERO _____ | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | RA-130-010 SOUTH TRACK & CATCH PAN DETAILS | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CP</i> | | | 11-3-92 | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | | | 11-3-92 | | | | |
| G INDEX | CHECKED E. CARCIA <i>EC</i> | | 11-2-92 | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | |
| | DRAWN C. PEASE | | 11-15-91 | | PROJECT B-595 | | |
| CLASSIFICATION NONE | | | BY NOT RECD | | DRAWING NUMBER H-2-120553 | | FLUOR CONTRACT NO. 8457 |
| | | | | | BLDG NO. 1 | | CWBS NO. P06B |
| | | | | | SCALE SHOWN | | INDEX NO. |
| | | | | | SHEET 6 | | OF 7 |
| | | | | | REV 0 | | |

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DISTRIBUTION CODE: 403

M298


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INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993


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|------------------------|----------|---|-------------------|----------------------|----|-----------|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EC | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120553G | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE -- AC06-B6RL10838 | | | | | |
| REV | DATE | | | | | | |
| ERO | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | | |
| SIGNATURE | | | | | | | |
| PROJ DIR | | RA-130-010 SOUTH TRACK & CATCH PAN STRUCTURAL TUBING DETAILS | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | HANFORD WASTE VITRIFICATION PLANT | | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | PROJECT TITLE | | | | | |
| C. DIVONA <i>CD</i> | | | | | | | |
| DESIGN ENGINEER | | PROJECT | | | | | |
| R. CHOATE <i>KBC</i> | | | | | | | |
| CHECKED | | PROJECT | | FLUOR CONTRACT NO. | | CWBS NO. | |
| E. CARCIA <i>EC</i> | | B-595 | | 8457 | | P06B | |
| DRAWN | | SCALE | | BLDG NO. | | INDEX NO. | |
| C. PEASE | | 1/2 | | 1 | | | |
| CLASSIFICATION | | BY | | DRAWING NUMBER | | SHEET | |
| NONE | | NOT RECD | | H-2-120553 | | 7 | |
| | | | | | | OF | |
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QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993


| | | | | | | |
|------------------------|----------|---|-------------------|----------------------|-----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B120554A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | <p align="center">U.S. DEPARTMENT OF ENERGY</p> <p align="center">Richland Field Office DE - AC06-B6RL10838</p> <p align="center"> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p align="center">RA-130-009 NORTH TRACK & CATCH PAN PARTS LIST & NOTES</p> | | | | |
| REV | DATE | | | | | |
| ERO | | | | | | |
| SIGNATURE | DATE | | | | | |
| PROJ DIR | | | | | | |
| QA MGR | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | |
| PROJECT MGR | | | | | | |
| SYSTEMS MGR | | | | | | |
| ENGINEERING MGR | | | | | | |
| SUPERVISOR | | | | | | |
| C. DIVONA | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | | | | |
| R. CHOATE | 11-3-92 | | | | | |
| CHECKED | | | | | | |
| E. CARCIA | 11-2-92 | | | | | |
| DRAWN | | | | | | |
| C. PEASE | 11-15-91 | | | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | |
| NONE | NOT REQD | H-2-120554 | 1 | 7 | 0 | |

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QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| 0 | 01/06/93 | APPROVED FOR CONSTRUCTION | EC | RC | CD | NA | NA | |
|---|----------|--|-------------------|--|----|-----------------------------|-----------------------|------------------------|
| | | | NA | NA | NA | NA | NA | |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | | |
| CADFILE | B120554B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10B38 | | | | | | |
| REV _____ DATE _____ | | | | | | | | |
| ERO _____ | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION RA-130-009 NORTH TRACK & CATCH PAN ASSEMBLY | | | | | | |
| SIGNATURE | DATE | | | | | | | |
| PROJ DIR NA | | | | | | | | |
| QA MGR NA | | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | | |
| PROJECT MGR NA | | | | | | | | |
| SYSTEMS MGR NA | | | | | | | | |
| ENGINEERING MGR NA | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | | | |
| SUPERVISOR C. DIVONA <i>CP</i> | 11-3-92 | | | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | 11-3-92 | PROJECT B-595 | | | | | | |
| CHECKED E. CARCIA <i>EC</i> | 11-2-92 | | | | | | | |
| DRAWN C. PEASE | 11-15-91 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | SCALE 1/16 | | |
| CLASSIFICATION NONE | | BY NOT REQD | | DRAWING NUMBER H-2-120554 | | SHEET 2 | OF 7 | REV 0 |


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3/8 2 PL

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EC | RC | CD | NA | NA | |
|-----------------------------|-----------------------------|---|--------------------------------|----------------------|----|--------------|-----------|------------|
| | | | NA | NA | NA | NA | NA | |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | | |
| CADFILE | B120554C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | | | |
| REV _____ DATE _____ | | | | | | | | |
| ERO _____ | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | | |
| PROJ DIR | | RA-130-009 NORTH TRACK & CATCH PAN ASSEMBLY | | | | | | |
| NA | | | | | | | | |
| QA MGR | | | | | | | | |
| NA | | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | | |
| PROJECT MGR | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | | | |
| NA | | | | | | | | |
| SYSTEMS MGR | | | | | | | | |
| NA | | | | | | | | |
| ENGINEERING MGR | | | | | | | | |
| SUPERVISOR | | PROJECT B-595 | | | | | | |
| C. DIVONA <i>CP</i> 11-3-92 | | | | | | | | |
| DESIGN ENGINEER | | FLUOR CONTRACT NO. 8457 | | | | | | |
| R. CHOATE <i>RC</i> 11-3-92 | | | | | | | | |
| INDEX | CHECKED | | CWBS NO. P06B | | | | | |
| | E. CARCIA <i>EC</i> 11-2-92 | | | | | | | |
| DRAWN | | SCALE SHOWN | | | | | | |
| C. PEASE 06/12/92 | | | | | | | | |
| CLASSIFICATION | | BLDG NO. 1 | | | | | | |
| NONE | | | | | | | | |
| BY | | INDEX NO. 0 | | | | | | |
| NOT RECD | | | | | | | | |
| | | DRAWING NUMBER | | | | SHEET | OF | REV |
| | | H-2-120554 | | | | 3 | 7 | 0 |

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DISTRIBUTION CODE: 403


M302 ACAD

INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|-----------------------------------|----------|---------------------------|---|----------------------|--------------------------------|----|------------------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EC | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120554D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION RA-130-009 NORTH TRACK & CATCH PAN ASSEMBLY | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VTRIFICATION PLANT | | | | |
| SUPERVISOR | | | | | | | |
| DESIGN ENGINEER | | | | | | | |
| C. DIVONA | | 11-3-92 | PROJECT B-595 | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| E. CARCIA | | 11-2-93 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| C. PEASE | | 11/15/91 | SCALE SHOWN | | BLDG NO. 1 | | INDEX NO. |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | | |
| NONE | NOT REQD | H-2-120554 | 4 | 7 | 0 | | |

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INDEX

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INITIALS: PN
DATE: 03-16-93

DISTRIBUTION CODE: 403 **M303** ACAD

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QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|-----------------------------------|----------|---------------------------|---|----------------------|----|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EC | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120554E | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10B38 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | RA-130-009 NORTH TRACK & CATCH PAN DETAILS | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT B-595 FLUOR CONTRACT NO. 8457 CWBS NO. P06B | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | SCALE 1/2 BLDG NO. 1 INDEX NO. | | | | |
| E. CARCIA | | 11-2-92 | | | | | |
| DRAWN | | | DRAWING NUMBER SHEET OF REV | | | | |
| C. PEASE | | 11-15-91 | | | | | |
| CLASSIFICATION | | BY | H-2-120554 5 7 0 | | | | |
| NONE | | NOT REQD | | | | | |

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DISTRIBUTION CODE: 403


M304 ACAD

INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EC | RC | CD | NA | NA |
|--|----------|---------------------------|---|----------------------|--------------------------------|----------------|-----------------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120554F | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE REV _____ DATE _____ ERO _____ | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | RA-130-009 NORTH TRACK & CATCH PAN DETAILS | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> 11-3-92 | | | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> 11-3-92 | | | PROJECT B-595 | | | | |
| CHECKED E. CARCIA <i>EC</i> 11-2-92 | | | | | | | |
| DRAWN C. PEASE 11-15-91 | | | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| | | | SCALE SHOWN | | BLDG NO. 1 | | |
| | | | | | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120554 | | SHEET 6 | OF 7 | REV 0 |


DISTRIBUTION CODE: 403

M305 ACAD

INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | EC | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|--|----------------------|-----------|----|-----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120554G | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10B38 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION RA-130-009 NORTH TRACK & CATCH PAN DETAILS | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED | | | | | | | |
| E. CARCIA | | 11-2-92 | | | | | |
| DRAWN | | | FLUOR CONTRACT NO. | | CWBS NO. | | |
| C. PEASE | | 11-15-91 | 8457 | | P06B | | |
| | | | BLDG NO. | | INDEX NO. | | |
| | | | 1 | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120554 | | 7 | 7 | 0 |

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1

DISTRIBUTION CODE: 403

M306 ACAD

INITIALS: PN
DATE: 03-16-93


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79 80

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

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| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | JH | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|---|----------------------|--------------------------------|----|-----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120562A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | RA-130-007 POWER CABLE REELS PARTS LIST & NOTES | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT B-595 | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| J. HERBRAND | | 11-2-92 | SCALE NONE | | BLDG NO. 1 | | |
| DRAWN | | | | | INDEX NO. | | |
| D. SMITH | | 6/10/92 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT RECD | H-2-120562 | | 1 | 5 | 0 |

INDEX

2

1

DISTRIBUTION CODE: 403


M307 ACAD

INITIALS: PN
DATE: 03-16-93

7980

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|-----------------------------------|----------|---------------------------|---|----------------------|----|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | JH | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120562B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE -- AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERD _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION RA-130-007 POWER CABLE REEL ASSEMBLY | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT B-595 FLUOR CONTRACT NO. 8457 CWBS NO. P06B | | | | |
| R. CHOATE <i>RC</i> | | 11-3-92 | | | | | |
| CHECKED | | | SCALE 1/4 BLDG NO. 1 INDEX NO. | | | | |
| J. HERBRAND <i>JH</i> | | 11-2-92 | | | | | |
| DRAWN | | | CLASSIFICATION NONE BY NOT REQD DRAWING NUMBER H-2-120562 SHEET 2 OF 5 REV 0 | | | | |
| DARREN SMITH | | 06/16/92 | | | | | |

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INDEX

2
180

DISTRIBUTION CODE: 403

M308 ACAD


INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

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| | | | | | | | |
|-----------------------------------|-----------------------|---------------------------|---|----------------------|-----------|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | JH | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120562C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office</p> <p>DE - AC06-86RL10838</p> | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  <p>FLUOR DANIEL, INC.</p> <p>ADVANCED TECHNOLOGY DIVISION</p> <p>RA-130-007</p> <p>POWER CABLE REEL</p> <p>FRAME ASSEMBLY</p> | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA <i>CP</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT B-595 | | | | |
| R. CHOATE <i>RC</i> | | 11-3-92 | | | | | |
| INDEX | CHECKED | | FLUOR CONTRACT NO. | | CWBS NO. | | |
| | J. HERBRAND <i>JH</i> | 11-2-92 | 8457 | | P06B | | |
| | DRAWN | | BLDG NO. | | INDEX NO. | | |
| | DARREN SMITH | 05/27/92 | 1 | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT RECD | H-2-120562 | | 3 | 5 | 0 |

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C
79 80

DISTRIBUTION CODE: 403

M309 ACAD

INITIALS: PN


DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

B

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| | | | | | | | |
|-----------------------------------|----------|---------------------------|--|----------------------|-------------|----------|----------|
| 0 | 04/66/93 | APPROVED FOR CONSTRUCTION | JH | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120562D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10B38 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION RA-130-007 POWER CABLE REEL CONNECTOR FOLDING BAIL WELDMENT | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA <i>CP</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT B-595 | | | | |
| R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| CHECKED | | | FLUOR CONTRACT NO. | | CWBS NO. | | |
| J. HERBRAND <i>JH</i> | | 11-2-92 | 8457 | | P06B | | |
| DRAWN | | | BLDG NO. | | INDEX NO. | | |
| DARREN SMITH | | 08/20/92 | 1 | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120562 | | 4 | 5 | 0 |

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DISTRIBUTION CODE: 403

M310 ACAD

INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|-----------------------------------|----------|---------------------------|---|----------------------|-----------|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | JH | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120562E | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION RA-130-007 POWER CABLE REEL DETAILS REMOVABLE LEG ASSEMBLY | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR | | | | | | | |
| DESIGN ENGINEER | | | | | | | |
| C. DIVONA <i>CD</i> | | 11-3-92 | PROJECT B-595 | | | | |
| R. CHOATE <i>RC</i> | | 11-3-92 | | | | | |
| CHECKED | | | FLUOR CONTRACT NO. | | CWBS NO. | | |
| J. HERBRAND <i>JH</i> | | 11-2-92 | 8457 | | P06B | | |
| DRAWN | | | BLDG NO. | | INDEX NO. | | |
| DARREN SMITH | | 05/29/92 | 1 | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT RECD | H-2-120562 | | 5 | 5 | 0 |

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NDEX

2
80


DISTRIBUTION CODE: 403

M311 ACAD

INITIALS: PN
DATE: 03-16-93

APR 8 - 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | JH | RC | CD | NA | NA |
|----------------------------|----------|---|-------------------|----|----------------------|----|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | | B120563A | CADCODE | | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10B3B | | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR | | RA-130-005 POWER CABLE REEL ASSY PARTS LIST AND NOTES | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | | | | | |
| NA | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | PROJECT B-595 | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | FLUOR CONTRACT NO. 8457 | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA <i>CP</i> | | CWBS NO. P06B | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE <i>RC</i> | | BLDG NO. 1 | | | | | |
| CHECKED | | | | | | | |
| J. HERBRAND <i>JH</i> | | INDEX NO. 0 | | | | | |
| DRAWN | | | | | | | |
| DARREN SMITH | | SCALE NONE | | | | | |
| CLASSIFICATION | | | | | | | |
| NONE | | DRAWING NUMBER H-2-120563 | | | | | |
| BY | | | | | | | |
| NOT RECD | | SHEET 1 | | | | | |
| | | | | | | | |
| | | OF 5 | | | | | |
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| | | REV 0 | | | | | |
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DISTRIBUTION CODE: 403

M312 ACAD

INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|-----------------------------------|--------------|---------------------------|---|----------------------|-----------|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | JH | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120563B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | RA-130-005 POWER CABLE REEL ASSEMBLY | | | | |
| SUPERVISOR | | | | | | | |
| DESIGN ENGINEER | | | | | | | |
| C. DIVONA | | 11-3-92 | HANFORD WASTE VITRIFICATION PLANT | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| INDEX | CHECKED | 12/13/92 | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| | J. HERBRAND | 11-2-92 | B-595 | 8457 | P06B | | |
| | DRAWN | 08-29-92 | SCALE | BLDG NO. | INDEX NO. | | |
| | DARREN SMITH | | 1/4 | 1 | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT RECD | H-2-120563 | | 2 | 5 | 0 |

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70 201


DISTRIBUTION CODE: 403

M313 ACAD

INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|---|----------------------------------|---------------------------|--|-----------------------------------|-------------------------|----------------|-----------------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | JH | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120563C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10B38 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | RA-130-005 POWER CABLE REEL FRAME ASSEMBLY | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CP</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| INDEX | CHECKED J. HERBRAND <i>JL</i> | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN C. PEASE | 11/20/91 | SCALE SHOWN | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120563 | | SHEET 3 | OF 5 | REV 0 |

DISTRIBUTION CODE: 403


M314 ACAD

INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|------------------------|----------|---------------------------|---|----------------------|----|----|----|
| 0 | 04/66/93 | APPROVED FOR CONSTRUCTION | JH | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120563D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION RA-130-005 POWER CABLE REEL REMOVABLE LEG ASSEMBLY DETAILS | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | RA-130-005 POWER CABLE REEL REMOVABLE LEG ASSEMBLY DETAILS | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED | | | | | | | |
| J. HERBRAND | | 11-2-92 | FLUOR CONTRACT NO. 8457 | | | | |
| DRAWN | | | | | | | |
| DARREN SMITH | | 05/29/92 | CWBS NO. P06B | | | | |
| | | | | | | | |
| CLASSIFICATION | | BY | SCALE SHOWN | | | | |
| NONE | | NOT REQD | | | | | |
| | | | BLDG NO. 1 | | | | |
| | | | | | | | |
| | | | INDEX NO. | | | | |
| | | | | | | | |
| | | | DRAWING NUMBER H-2-120563 | | | | |
| | | | | | | | |
| | | | SHEET 4 | | | | |
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| | | | OF 5 | | | | |
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| | | | REV 0 | | | | |
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DISTRIBUTION CODE: 403

M315 ACAD

INITIALS: PN
DATE: 03-16-93

APR 8 - 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | JH | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|---|----------------------|-------------------------|----|-----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120563E | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10B38 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION RA-130-005 POWER CABLE REEL DETAILS | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | RA-130-005 POWER CABLE REEL DETAILS | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED | | | | | | | |
| J. HERBRAND | | 11-2-92 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | | |
| DRAWN | | | BLDG NO. 1 | | INDEX NO. | | |
| C. PEASE | | 11/20/91 | SCALE SHOWN | | INDEX NO. | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT RECD | H-2-120563 | | 5 | 5 | 0 |

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DISTRIBUTION CODE: 403


M316 ACAD

INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | JH | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|--|----------------------|----|----|----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120564A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION RA-130-006 INSTRUMENTATION CABLE REEL ASSY PART LIST & NOTES | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | RA-130-006 INSTRUMENTATION CABLE REEL ASSY PART LIST & NOTES | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA <i>gd</i> | | 11-3-92 | HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE <i>RCC</i> | | 11-3-92 | PROJECT B-595 FLUOR CONTRACT NO. 8457 CWBS NO. P06B | | | | |
| CHECKED | | | | | | | |
| J. HERBRAND <i>JH</i> | | 11-2-92 | SCALE NONE BLDG NO. 1 INDEX NO. | | | | |
| DRAWN | | | | | | | |
| M. PICCIOT | | 06/24/92 | DRAWING NUMBER H-2-120564 SHEET 1 OF 6 REV 0 | | | | |
| CLASSIFICATION | | | | | | | |
| NONE | | NOT RECD | | | | | |

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DISTRIBUTION CODE: 403

M317

ACAD.


INITIALS: PN

DATE: 03-16-93

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77 78 79 80

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | JH | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|---|----------------------|-----------|----|-----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120564B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION RA-130-006 INSTRUMENTATION CABLE REEL ASSEMBLY | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | RA-130-006 INSTRUMENTATION CABLE REEL ASSEMBLY | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA <i>CD</i> | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE <i>RBC</i> | | 11-3-92 | PROJECT B-595 | | | | |
| CHECKED | | | | | | | |
| J. HERBRAND <i>JH</i> | | 11-2-92 | FLUOR CONTRACT NO. | | CWBS NO. | | |
| DRAWN | | | 8457 | | P06B | | |
| D. SMITH | | 7/2/92 | BLDG NO. | | INDEX NO. | | |
| 1/4 | | | 1 | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120564 | | 2 | 6 | 0 |

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DRAWING INDEX

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77 78 79 80


DISTRIBUTION CODE: 403

M318 ACAD

INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| 0 | 04/6/93 | APPROVED FOR CONSTRUCTION | JH | RC | CD | NA | NA |
|--|----------|---------------------------|---|-----------------------------------|-------------------------|----------------|-----------------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120564C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE REV _____ DATE _____ ERO _____ | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10B38 | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | RA-130-006 INSTRUMENTATION CABLE REEL FRAME ASSEMBLY | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> 11-3-92 | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> 11-3-92 | | | | | | | |
| CHECKED J. HERBRAND <i>JH</i> 11-2-92 | | | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| DRAWN C. SALVADOR 12-04-91 | | | SCALE NONE | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120564 | | SHEET 3 | OF 6 | REV 0 |

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DISTRIBUTION CODE: 403

M319 ACAD

INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

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|-----------------------------------|------------------------|---------------------------|---|-----------------------------------|-------------------------|----------------|-----------------|
| 0 | 04/16/93 | APPROVED FOR CONSTRUCTION | JH | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120564D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION RA-130-006 INSTRUMENTATION CABLE REEL FRAME WELDMENT | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE | | 11-3-92 | | | | | |
| DRAWING INDEX | CHECKED J. HERBRAND | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN D. SMITH | 5/10/92 | SCALE NONE | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120564 | | SHEET 4 | OF 6 | REV 0 |

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77 78 79 80

DISTRIBUTION CODE: 403


M320 ACAD

INITIALS: PN

DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|---|----------|---------------------------|---|----------------------|----|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | JH | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120564E | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION RA-130-006 INSTRUMENTATION CABLE REEL CABLE GUIDE ASSEMBLY | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11-3-92 | HANFORD WASTE VITRIFICATION PLANT PROJECT B-595 FLUOR CONTRACT NO. 8457 CWBS NO. P06B SCALE 1/1 BLDG NO. 1 INDEX NO. DRAWING NUMBER H-2-120564 SHEET 5 OF 6 REV 0 | | | | |
| DESIGN ENGINEER R. CHOATE <i>RSC</i> | | 11-3-92 | | | | | |
| CHECKED J. HERBRAND <i>JH</i> | | 11-2-92 | | | | | |
| DRAWN C. SALVADOR | | 11/18/91 | | | | | |
| CLASSIFICATION NONE | | BY NOT RECD | | | | | |

DISTRIBUTION CODE: 403

M321

ACAD


INITIALS: PN

DATE: 03-16-93

AFC
77 78 79 80

APR 8 - 1993

QUALITY LEVEL II
SAFETY CLASS 3

| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | JH | RC | CD | NA | NA |
|------------------------|-------------|---------------------------|--|----------------------|-------|-----------|-----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120564F | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>RA-130-006 INSTRUMENTATION CABLE REEL DETAILS</p> | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| DRAWING INDEX | CHECKED | 12-3-93 | PROJECT | FLUOR CONTRACT NO. | | CWBS NO. | |
| | J. HERBRAND | 11-2-92 | B-595 | 8457 | | P06B | |
| | DRAWN | | SCALE | BLDG NO. | | INDEX NO. | |
| C. SALVADOR | | 12-04-91 | SHOWN | | 1 | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT RECD | H-2-120564 | | 6 | 6 | 0 |

DISTRIBUTION CODE: 403

M322 ACAD


INITIALS: PN

DATE: 03-16-93

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77 78 79 80

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|--|----------|---------------------------|--|-----------------------------------|-------------------------|----------------|-----------------|
| 0 | 04/16/93 | APPROVED FOR CONSTRUCTION | JH | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120565A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION RA-130-008 CABLE REELS SUPPORT FRAME PARTS LIST & NOTES | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>cp</i> | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> | | 11-3-92 | | | | | |
| CHECKED J. HERBRAND <i>JL</i> | | 11-2-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| DRAWN R. MOREL | | 7-27-92 | SCALE NONE | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120565 | | SHEET 1 | OF 8 | REV 0 |

DISTRIBUTION CODE: 403

M323 ACAD

INITIALS: PN

DATE: 03-16-93

AFC
77 78 79 80


Ø 1.22 \pm .001
- .000 HOLE

Ø 1.25 \pm .000
- .001 REF SHAFT

34.830 \pm .000
- .005

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | | | |
|-----------------------------------|---------------------------|---|---|-------------------------|----|-----------------------------------|----------|-------------------------|--|
| 0 | 04/6/93 | APPROVED FOR CONSTRUCTION | JH | KBC | CP | NA | NA | | |
| REV NO. | DATE | REVISION DESCRIPTION | NA | NA | NA | NA | NA | | |
| CADFILE | B120565B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION RA-130-008 CABLE REELS SUPPORT FRAME WELDMENT | | | | | | |
| PROJ DIR NA | | | | | | | | | |
| QA MGR NA | | | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | | | |
| PROJECT MGR NA | | | | | | | | | |
| SYSTEMS MGR NA | | | | | | | | | |
| ENGINEERING MGR NA | | | | | | | | | |
| SUPERVISOR C. DIVONA CP | | 11-3-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | | | |
| DESIGN ENGINEER R. CHOATE KBC | | 11-3-92 | | | | | | | |
| DRAWING INDEX | CHECKED J. HERBRAND JH | | 11-2-92 | PROJECT B-595 | | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | |
| | DRAWN R. MOREL | | 7-14-92 | SCALE SHOWN | | BLDG NO. 1 | | INDEX NO. | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | | SHEET | OF | REV | |
| NONE | | NOT RECD | H-2-120565 | | | 2 | 8 | 0 | |

DISTRIBUTION CODE: 403

M324 ACAD


INITIALS: PN

DATE: 03-16-93

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77 78 79 80

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

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|-----------------------------------|----------|---|--|----------------------|-------|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | JH | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120565C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION RA-130-008 CABLE REELS SUPPORT FRAME LOWER FRAME WELDMENT | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | PROJECT TITLE HANFORD WASTE VTRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT B-595 | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | FLUOR CONTRACT NO. 8457 | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | CWBS NO. P06B | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | BLDG NO. 1 | | | | |
| J. HERBRAND | | 11-2-92 | | | | | |
| DRAWN | | | INDEX NO. | | | | |
| R. MOREL | | 7-22-92 | | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | | NOT REQD | H-2-120565 | | 3 | 8 | 0 |

VIEWING INDEX

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|----|----|-------|
| A | F | C |
| 77 | 78 | 79 80 |


DISTRIBUTION CODE: 403

M325 ACAD

1 INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|--|--|---------------------------|--|-------------------------|----------------|-------------------------------------|-----------------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | JH | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120565D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE REV _____ DATE _____ ERO _____ | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | RA-130-008 CABLE REELS SUPPORT FRAME DETAILS & WELDMENTS | | | | |
| SUPERVISOR C. DIVONA <i>CPD</i> 11-3-92 | | | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> 11-3-92 | | | | | | | |
| ING INDEX | CHECKED J. HERBRAND <i>JH</i> 11-2-92 | | | PROJECT B-595 | | FLUOR CONTRACT NO. 8457 | |
| | DRAWN R. MOREL 7-28-92 | | | SCALE SHOWN | | BLDG NO. 1 | |
| CLASSIFICATION NONE | | | BY NOT RECD | | | DRAWING NUMBER H-2-120565 | |
| | | | SHEET 4 | | OF 8 | | REV 0 |


DISTRIBUTION CODE: 403

M326 ACAD

INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|-----------------------------------|----------|---------------------------|--|----------------------|----|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | JH | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120565E | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION RA-130-008 CABLE REELS SUPPORT FRAME LIFTING LUG WELDMENTS | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT B-595 | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | FLUOR CONTRACT NO. 8457 | | | | |
| C. DIVONA <i>CD</i> | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | CWBS NO. P06B | | | | |
| R. CHOATE <i>RBC</i> | | 11-3-92 | | | | | |
| CHECKED | | | SCALE 1/4 | | | | |
| J. HERBRAND <i>JH</i> | | 11-2-92 | | | | | |
| DRAWN | | | BLDG NO. 1 | | | | |
| R. MOREL | | 7-22-92 | | | | | |
| CLASSIFICATION | | BY | INDEX NO. | | | | |
| NONE | | NOT REQD | | | | | |
| DRAWING NUMBER | | SHEET | | | OF | | REV |
| H-2-120565 | | 5 | | | 8 | | 0 |

DISTRIBUTION CODE: 403


M327 ACAD

INITIALS: PN
DATE: 03-16-93

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77 78 79 80

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | | |
|-----------------------------------|--|------------|--|--|----------------------|----|----|----|
| 0 | | 04/06/93 | APPROVED FOR CONSTRUCTION | JH | ABC | CD | NA | NA |
| REV NO. | | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | | B120565F | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | | |
| SIGNATURE | | DATE | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION RA-130-008 CABLE REELS SUPPORT FRAME LEFT LIFTING LUG DETS | | | | |
| PROJ DIR | | | | | | | | |
| NA | | | | | | | | |
| QA MGR | | | | | | | | |
| NA | | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | | |
| NA | | | | | | | | |
| PROJECT MGR | | | | RA-130-008 CABLE REELS SUPPORT FRAME LEFT LIFTING LUG DETS | | | | |
| NA | | | | | | | | |
| SYSTEMS MGR | | | | | | | | |
| NA | | | | | | | | |
| ENGINEERING MGR | | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| NA | | | | | | | | |
| SUPERVISOR | | 11-3-92 | | PROJECT B-595 | | | | |
| C. DIVONA <i>CD</i> | | | | | | | | |
| DESIGN ENGINEER | | 11-3-92 | | FLUOR CONTRACT NO. 8457 | | | | |
| R. CHOATE <i>ABC</i> | | | | | | | | |
| CHECKED | | 11-2-92 | | CWBS NO. P06B | | | | |
| J. HERBRAND <i>JH</i> | | | | | | | | |
| DRAWN | | 7-17-92 | | BLDG NO. 1 | | | | |
| R. MOREL | | | | | | | | |
| CLASSIFICATION | | BY | | INDEX NO. 0 | | | | |
| NONE | | NOT RECD | | | | | | |
| DRAWING NUMBER | | H-2-120565 | | SHEET 6 | | | | |
| | | | | OF 8 | | | | |
| | | | | REV 0 | | | | |

INDEX

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77 78 79 80


DISTRIBUTION CODE: 403

M328 ACAD

INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|--|----------|--|-------------------|----------------------------|----|------------------|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | JH | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120565G | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | | |
| SIGNATURE _____ DATE _____ | | | | | | | |
| PROJ DIR NA | | RA-130-008 CABLE REELS SUPPORT FRAME RIGHT LIFTING LUG DETS | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | | |
| SUPERVISOR C. DIVONA <i>CJD</i> 11-3-92 | | | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RC</i> 11-3-92 | | PROJECT B-595 | | FLUOR CONTRACT NO. 8457 | | CWBS NO. P06B | |
| CHECKED J. HERBRAND <i>JH</i> 11-2-92 | | SCALE 1/4 | | BLDG NO. 1 | | INDEX NO. | |
| DRAWN R. MOREL 7-23-92 | | DRAWING NUMBER H-2-120565 | | SHEET 7 | | OF 8 | |
| CLASSIFICATION NONE | | BY NOT RECD | | REV 0 | | | |

DISTRIBUTION CODE: 403

M329 ACAD


INITIALS: PN

DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | |
|---|----------|--|-------------------|----------------------|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | JH | RC | CD | NA |
| | | | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B120565H | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ | | | | | | |
| ERO _____ | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| SIGNATURE _____ DATE _____ | | | | | | |
| PROJ DIR NA | | RA-130-008 CABLE REELS SUPPORT FRAME BRIDGE WELDMENT | | | | |
| QA MGR NA | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | |
| PROJECT MGR NA | | | | | | |
| SYSTEMS MGR NA | | | | | | |
| ENGINEERING MGR NA | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR C. DIVONA <i>sp</i> 11-3-92 | | | | | | |
| DESIGN ENGINEER R. CHOATE <i>lbc</i> 11-3-92 | | PROJECT B-595 | | | | |
| CHECKED J. HERBRAND <i>ll</i> 11-2-92 | | | | | | |
| DRAWN R. MOREL 07/27/92 | | FLUOR CONTRACT NO. 8457 | | | | |
| CLASSIFICATION NONE | | | | | | |
| BY NOT REQD | | BLDG NO. 1 | | | | |
| DRAWING NUMBER H-2-120565 | | | | | | |
| | | SHEET 8 OF 8 REV 0 | | | | |

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DISTRIBUTION CODE: 403

M330 ACAD


INITIALS: PN

DATE: 03-16-93

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QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| 0 | 04/66/93 | APPROVED FOR CONSTRUCTION | JH | RC | CD | NA | NA |
|-----------------------------------|----------|---------------------------|--|----------------------|----------|----|-----------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120568A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION MECHANICAL CONNECTOR HOUSING ASSEMBLY | | | | |
| PROJ DIR | | | | | | | |
| QA MGR | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| PROJECT MGR | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| SUPERVISOR | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| C. DIVONA | | 11-3-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT B-595 FLUOR CONTRACT NO. 8457 CWBS NO. P06B | | | | |
| R. CHOATE | | 11-3-92 | | | | | |
| CHECKED | | | SCALE | | BLDG NO. | | INDEX NO. |
| J. HERBRAND | | 11-2-92 | 1/1 | | 1 | | |
| DRAWN | | | DRAWING NUMBER | | | | |
| D. SMITH | | 04/13/92 | | | | | |
| CLASSIFICATION | | BY | SHEET | | OF | | REV |
| NONE | | NOT REQD | H-2-120568 | | 1 | | 1 |
| | | | | | | | 0 |

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DISTRIBUTION CODE: 403

M331 ACAD

1 INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|---|-----------------|---------------------------|--|-----------------------------------|-------------------------|----|----|
| 0 | 04/10/93 | APPROVED FOR CONSTRUCTION | RB | RC | CD | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120555A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION RA-130-010 SOUTH TRACK & CATCH PAN DIMENSIONAL RECORD DWG | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR C. DIVONA <i>CD</i> | | 11/3/92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | | 11/3/92 | | | | | |
| CHECKED R. BIANCHI <i>RBC</i> | | 11/2/92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| DRAWN R. MOREL | | 7-7-92 | SCALE NONE | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | | |
| NONE | NOT REQD | H-2-120555 | 1 | 2 | 0 | | |

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DISTRIBUTION CODE: 403

M332 ACAD

INITIALS: PN
DATE: 03-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|---|---------------------------------|---|--|----------------------------|------------------|---------|----------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | RB | RC | CD | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B120555B | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10B38 | | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION RA-130-009 NORTH TRACK & CATCH PAN DIMENSIONAL RECORD DWG | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| SUPERVISOR C. DIVONA <i>cpd</i> | | 11/3/92 | | | | | |
| DESIGN ENGINEER R. CHOATE <i>RBC</i> | | 11/3/92 | | | | | |
| DRAWING INDEX | CHECKED R. BIANCHI <i>jk</i> | 11/2/92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | DRAWN R. MOREL | 7-7-92 | SCALE NONE | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT REQD | DRAWING NUMBER H-2-120555 | | SHEET 2 | OF 2 | REV 0 |

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DISTRIBUTION CODE: 403

M333 ACAD


INITIALS: PN

DATE: 03-16-93

BRAID SHIELD, 24 AWG TINNED COPPER DRAIN WIRE
 CHROME PVC JACKET, BELDEN CATALOG #9841 OR EQUAL,
 FOR COMMUNICATION SIGNALS. PROVIDE A PLUG (OR
 RECEPTACLE) ON ONE END OF EACH CABLE TO MATE
 WITH RECEPTACLE (OR PLUG) ON THE PANEL. ASSEMBLE
 THE CABLES WITH AN OUTER STAINLESS STEEL WIRE MESH
 CORD GRIP KELLEMS STAINLESS STEEL DELUXE CORD,
 HUBBELL CATALOG #CGXXXXXX OR EQUAL. PROVIDE CAPS
 FOR ALL RECEPTACLES AND PLUGS.

QUALITY LEVEL II
 SAFETY CLASS 3

APR 8 - 1993

| | | | | | | |
|------------------------------------|----------|---|----------------------------|----------------------|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B121701A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-B6RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>LP-130-001, 006 INSTRUMENT PANEL LAYOUT</p> | | | | |
| REV _____ DATE _____ | | | | | | |
| ERO _____ | | | | | | |
| SIGNATURE | DATE | | | | | |
| PROJ DIR NA | | | | | | |
| QA MGR NA | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | |
| PROJECT MGR NA | | | | | | |
| SYSTEMS MGR NA | | | | | | |
| ENGINEERING MGR NA | | | | | | |
| SUPERVISOR QB Busan | 2/26/93 | PROJECT TITLE | | | | |
| DESIGN ENGINEER Robert S. Payne | 2/26/93 | HANFORD WASTE VITRIFICATION PLANT | | | | |
| CHECKED B. Carlisle | 2/26/93 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| DRAWN R. ROBERT R2 | 11/18/91 | SCALE NONE | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | NOT REQD | H-2-121701 | | 1 | 1 | 0 |

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DISTRIBUTION CODE: 703

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ACAD


INITIALS
 DATE: 26 MAR 93

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 77 76 78 80

INSULATED TWISTED PAIR WITH OVERALL BELDFOIL/COPPER BRAID SHIELD, 24 AWG TINNED COPPER DRAIN WIRE CHROME PVC JACKET, BELDEN CATALOG #9841 OR EQUAL, FOR COMMUNICATION SIGNALS. PROVIDE A PLUG (OR RECEPTACLE) ON ONE END OF EACH CABLE TO MATE WITH RECEPTACLE (OR PLUG) ON THE PANEL. ASSEMBLE THE CABLES WITH AN OUTER STAINLESS STEEL WIRE MESH CORD GRIP KELLEMS STAINLESS STEEL DELUXE CORD, HUBBELL CATALOG #CGXXXXXX OR EQUAL. PROVIDE CAPS FOR ALL RECEPTACLES AND PLUGS.

QUALITY LEVEL II
SAFETY CLASS 3

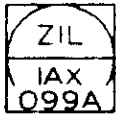
APR 8 - 1993

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|------------------------|----------|---|--------------------|----------------------|----|-----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B121702A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office DE - AC06-86RL10838</p> <p> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p>LP-130-002, 007 INSTRUMENT PANEL LAYOUT</p> | | | | |
| REV | DATE | | | | | |
| ERO | | | | | | |
| SIGNATURE | DATE | | | | | |
| PROJ DIR | | | | | | |
| QA MGR | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | |
| PROJECT MGR | | | | | | |
| SYSTEMS MGR | | | | | | |
| ENGINEERING MGR | | | | | | |
| SUPERVISOR | 2/26/93 | <p>PROJECT TITLE</p> <p>HANFORD WASTE VITRIFICATION PLANT</p> | | | | |
| DESIGN ENGINEER | 2/26/93 | | | | | |
| CHECKED | 2/26/93 | | | | | |
| DRAWN | 11/18/91 | | | | | |
| NG INDEX | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| | | B-595 | 8457 | P06B | | |
| | | SCALE | BLDG NO. | INDEX NO. | | |
| | | NONE | 1 | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | | SHEET | OF | REV |
| NONE | NOT REQD | H-2-121702 | | 1 | 1 | 0 |

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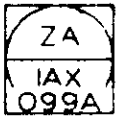
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|-------------------------------------|----------|---------------------------|--|----------------------|--------------------|----|-----------|
| 0 | 07/06/93 | APPROVED FOR CONSTRUCTION | Bob | Phil | Joe | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B121796A | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-B6RL10838 | | | | |
| REV. _____ DATE _____ ERO. _____ | | | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ. DIR. | | | | | | | |
| O.A. MGR. | | | | | | | |
| INDEPENDENT SAFETY MGR. | | | | | | | |
| PROJECT MGR. | | | | | | | |
| SYSTEMS MGR. | | | | | | | |
| ENGINEERING MGR. | | | INSTRUMENT CONTROL LOGIC DIAGRAM LP-130-001,002,006 & 007 | | | | |
| SUPERVISOR | | | | | | | |
| DESIGN ENGINEER | | | | | | | |
| CHECKED | | | | | | | |
| DRAWN | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| CLASSIFICATION | | | | | | | |
| BY | | | PROJECT | | FLUOR CONTRACT NO. | | CWBS NO. |
| NOT REQ'D | | | B-595 | | 8457 | | P06B |
| | | | SCALE | | BLDG. NO. | | INDEX NO. |
| | | | NONE | | 1 | | |
| | | | DRAWING NUMBER | | SHEET | | OF |
| | | | H-2-121796 | | 1 | | 7 |
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| | | | | | | | |
| O | | 04/06/93 | | APPROVED FOR CONSTRUCTION | | BRL RLL JES NA NA NA NA | |
| REV NO. | DATE | REVISION DESCRIPTION | | | | APPROVAL INITIALS | |
| CADFILE | B121796B | | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | | | U.S. DEPARTMENT OF ENERGY Richland Field Office DE - AC06-86RL10838 | | | |
| REV. _____ DATE _____ ERD. _____ | | | | | | | |
| SIGNATURE | | DATE | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | |
| PROJ. DIR. | | | | | | | |
| Q.A. MGR. | | | | | | | |
| INDEPENDENT SAFETY MGR. | | | | | | | |
| PROJECT MGR. | | | | | | | |
| SYSTEMS MGR. | | | | | | | |
| ENGINEERING MGR. | | | | INSTRUMENT CONTROL LOGIC DIAGRAM LP-130-001,002,006 & 007 | | | |
| SUPERVISOR | | | | | | | |
| DESIGN ENGINEER | | | | PROJECT TITLE | | | |
| CHECKED | | | | HANFORD WASTE VITRIFICATION PLANT | | | |
| DRAWN | | | | PROJECT | | FLUOR CONTRACT NO. | |
| CLASSIFICATION | | BY | | SCALE | | BLDG. NO. | |
| NONE | | NOT REQ'D | | NONE | | 1. | |
| DRAWING NUMBER | | SHEET | | OF | | REV. | |
| H-2-121796 | | 2 | | 7 | | 0 | |

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|----------|----------|
| IG INDEX | 2/26/93 |
| 13 | 2/26/93 |
| UT | 2/26/93 |
| | 11/27/91 |

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DISTRIBUTION CODE: 703

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INITIALS: FLH
DATE: 18 MAR 93


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| LP1 | CF1 |
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|-------------------------|------------------|--|--|----------------------|-------|-------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | RAE | RLD | QBC | NA/NA |
| | | | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B121796C | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV. _____ DATE _____ | | | | | | |
| ERO. _____ | | Richland Field Office DE - AC06-86RL10B38 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | |
| PROJ. DIR. | | | | | | |
| NA | | | | | | |
| Q.A. MGR. | | | | | | |
| NA | | | | | | |
| INDEPENDENT SAFETY MGR. | | | | | | |
| NA | | | | | | |
| PROJECT MGR. | | | INSTRUMENT CONTROL LOGIC DIAGRAM LP-130-001,002,006 & 007 | | | |
| NA | | | | | | |
| SYSTEMS MGR. | | | | | | |
| NA | | | | | | |
| ENGINEERING MGR. | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | |
| NA | | | | | | |
| INDEX | SUPERVISOR | 2/26/93 | PROJECT B-595 | | | |
| | DESIGN ENGINEER | 2/26/93 | | | | |
| | Q.B. Bunn | | FLUOR CONTRACT NO. 8457 | | | |
| | Robert L. Layman | | | | | |
| UT | CHECKED | 2/26/93 | CWBS NO. P06B | | | |
| | Barbaris | | | | | |
| | DRAWN | 11/27/91 | BLDG. NO. 1 | | | |
| | F.L. HOLLSTEIN | | | | | |
| | CLASSIFICATION | BY | INDEX NO. NONE | | | |
| | NONE | NOT REQ'D | | | | |
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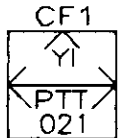
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DATE: MAR 93

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| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | BIB | RLZ | QPB | NA | NA |
|-------------------------------|---|---------------------------|---|----------------------|-------------------------|-------------------|----------------|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B121796D | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p align="center">U.S. DEPARTMENT OF ENERGY</p> <p align="center">Richland Field Office DE - AC06-86RL10838</p> <p align="center"> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</p> <p align="center">INSTRUMENT CONTROL LOGIC DIAGRAM LP-130-001,002,006 & 007</p> | | | | |
| REV. _____ DATE _____ | | | | | | | |
| ERO. _____ | | | | | | | |
| SIGNATURE | | DATE | | | | | |
| PROJ. DIR. NA | | | | | | | |
| O.A. MGR. NA | | | | | | | |
| INDEPENDENT SAFETY MGR. NA | | | | | | | |
| PROJECT MGR. NA | | | | | | | |
| SYSTEMS MGR. NA | | | | | | | |
| ENGINEERING MGR. NA | | | | | | | |
| INDEX | SUPERVISOR <i>J.B. Bunn</i> | 2/26/93 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| | DESIGN ENGINEER <i>Robert L. Layne</i> | 2/26/93 | PROJECT B-595 | | | | |
| | CHECKED <i>B. Bonar</i> | 2/26/93 | FLUOR CONTRACT NO. 8457 | | CWBS NO. P008 | | |
| | DRAWN <i>E. ROBLES</i> | 12/06/91 | SCALE NONE | | BLDG. NO. 1 | | INDEX NO. |
| CLASSIFICATION NONE | | BY NOT REQ'D | DRAWING NUMBER H-2-121796 | | | SHEET 4 | OF 7 |
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DATE 18 MAR 93

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| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | BBB | LLZ | QBB | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B121796E | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <div>U.S. DEPARTMENT OF ENERGY</div> <div>Richland Field Office DE - AC06-86RL10B38</div> <div> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</div> <div>INSTRUMENT CONTROL LOGIC DIAGRAM LP-130-001,002,006 & 007</div> | | | | |
| REV. _____ DATE _____ | | | | | | | |
| ERO. _____ | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ. DIR. NA | | | | | | | |
| Q.A. MGR. NA | | | | | | | |
| INDEPENDENT SAFETY MGR. NA | | | | | | | |
| PROJECT MGR. NA | | | | | | | |
| SYSTEMS MGR. NA | | | | | | | |
| ENGINEERING MGR. NA | | | | | | | |
| INDEX | SUPERVISOR JB Burm... 2/26/93 | DESIGN ENGINEER Robert L. ... 2/26/93 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| OUT | CHECKED B. Bark... 2/26/93 | DRAWN E. ROBLES 512 12/06/91 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| | CLASSIFICATION NONE | BY NOT REQ'D | SCALE NONE | BLDG. NO. 1 | INDEX NO. | | |
| | | | DRAWING NUMBER H-2-121796 | SHEET 5 | OF 7 | REV. 0 | |

APR 8 - 1993

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|-------------------------|-----------|---------------------------|---|----------------------|-----------|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | BAC | RLI | QBB | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B121796F | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | | |
| ENGINEERING RELEASE | | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office</p> <p>DE - AC06-86RL10838</p> | | | | |
| REV. _____ DATE _____ | | | | | | | |
| ERO. _____ | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ. DIR. | | | | | | | |
| NA | | |  <p>FLUOR DANIEL, INC.</p> <p>ADVANCED TECHNOLOGY DIVISION</p> | | | | |
| O.A. MGR. | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR. | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR. | | | <p>INSTRUMENT</p> <p>CONTROL LOGIC DIAGRAM</p> <p>LP-130-001,002,006 & 007</p> | | | | |
| NA | | | | | | | |
| SYSTEMS MGR. | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR. | | | | | | | |
| NA | | | <p>PROJECT TITLE</p> <p>HANFORD WASTE VITRIFICATION PLANT</p> | | | | |
| SUPERVISOR | | | | | | | |
| Q.B. Bunn | 2/26/93 | | | | | | |
| DESIGN ENGINEER | | | | | | | |
| Robert E. Lohman | 2/26/93 | | | | | | |
| CHECKED | | | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| BAC | 2/26/93 | | B-595 | 8457 | P06B | | |
| DRAWN | | | SCALE | BLDG. NO. | INDEX NO. | | |
| F.L. HOLLSTEIN | 12/11/91 | | NONE | 1 | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV. | | |
| NONE | NOT REQ'D | H-2-121796 | 6 | 7 | 0 | | |

DISTRIBUTION CODE: 703

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INITIALS: FEH
DATE: 18 MAR 93

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|-------------------------|-----------|---|--------------------|----------------------|------|-------|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | BAB | RL | QBB | NA/NA |
| | | | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B121796G | | CADCODE | 2B:IBM:ACD2:12.C1:SS | | |
| ENGINEERING RELEASE | | <div>U.S. DEPARTMENT OF ENERGY</div> <div>Richland Field Office DE - AC06-B6RL10838</div> <div> FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION</div> <div>INSTRUMENT CONTROL LOGIC DIAGRAM LP-130-001,002,006 & 007</div> | | | | |
| REV. | DATE | | | | | |
| ERO. | | | | | | |
| SIGNATURE | DATE | | | | | |
| PROJ. DIR. | NA | | | | | |
| O.A. MGR. | NA | | | | | |
| INDEPENDENT SAFETY MGR. | NA | | | | | |
| PROJECT MGR. | NA | | | | | |
| SYSTEMS MGR. | NA | | | | | |
| ENGINEERING MGR. | NA | | | | | |
| SUPERVISOR | 2/26/93 | PROJECT TITLE | | | | |
| DESIGN ENGINEER | 2/26/93 | HANFORD WASTE VITRIFICATION PLANT | | | | |
| CHECKED | 2/26/93 | PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | |
| DRAWN | 12/2/91 | SCALE | BLDG. NO. | INDEX NO. | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV. | |
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| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | KK | GL | ATPM | NA | NA |
|--------------------------|----------|---------------------------|--|----------------------|-----------|----|-----|
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
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| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | ELECTRICAL GENERAL NOTES AND SYMBOLS | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | PROJECT TITLE | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | HANFORD WASTE VITRIFICATION PLANT | | | | |
| A. TALEBI / A. McWHORTER | | 10-29-92 | | | | | |
| DESIGN ENGINEER | | | PROJECT B-595 | | | | |
| A. LARSEN | | 10-29-92 | | | | | |
| CHECKED | | | FLUOR CONTRACT NO. | | CWBS NO. | | |
| K. KOVELL | | 10-29-92 | 8457 | | P06B | | |
| DRAWN | | | BLDG NO. | | INDEX NO. | | |
| S. DREYER | | 9-30-92 | 1 | | | | |
| CLASSIFICATION | | BY | DRAWING NUMBER | | SHEET | OF | REV |
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DATE: 3-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993


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| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | KK | HL | AT | NA |
| | | | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | |
| CADFILE | B122426A | | CADCODE | 2B:IBM:ACD2:10.C2:SS | | |
| ENGINEERING RELEASE | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | |
| ERO _____ | | Richland Field Office DE - AC06-86RL10838 | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | |
| PROJ DIR | | | | | | |
| NA | | | | | | |
| QA MGR | | | | | | |
| NA | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | |
| NA | | | | | | |
| PROJECT MGR | | | ELECTRICAL POUR & DRAIN TURNTABLES BLOCK DIAGRAM | | | |
| NA | | | | | | |
| SYSTEMS MGR | | | | | | |
| NA | | | | | | |
| ENGINEERING MGR | | | | | | |
| NA | | | HANFORD WASTE VITRIFICATION PLANT | | | |
| SUPERVISOR | | | | | | |
| A.TALEBI/A.McWHORTER | | 10-29-92 | PROJECT TITLE | | | |
| DESIGN ENGINEER | | | PROJECT | | | |
| A.LARSEN | | 10-29-92 | B-595 | | FLUOR CONTRACT NO. | CWBS NO. |
| CHECKED | | | 8457 | | P06B | |
| K.KOVELL | | 10-29-92 | SCALE | | INDEX NO. | |
| NONE | | | BLDG NO. | | | |
| DRAWN | | | 1 | | | |
| S.DREYER | | 9-30-92 | DRAWING NUMBER | | SHEET | OF |
| CLASSIFICATION | | BY | H-2-122426 | | 1 | 1 |
| NONE | | NOT REOD | | | | 0 |

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QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993


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| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | KK | JE | ATM | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B122427A | | CADCODE | 2B:IBM:ACD2:10.C2:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ | | | | | | | |
| ERO _____ | | | Richland Field Office | | | | |
| SIGNATURE _____ DATE _____ | | | DE - AC06-B6RL10B38 | | | | |
| PROJ DIR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| QA MGR NA | | | | | | | |
| INDEPENDENT SAFETY MGR NA | | | ELECTRICAL CONNECTION DIAGRAM TU-130-002 | | | | |
| PROJECT MGR NA | | | | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR AT A. TALEBI / A. McWHORTER 10-29-92 | | | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| DESIGN ENGINEER A. LARSEN 10-29-92 | | | | | | | |
| CHECKED K. KOVELL 10-29-92 | | | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| DRAWN S. DREYER 9-30-92 | | | SCALE NONE | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION NONE | | BY NOT RECD | DRAWING NUMBER H-2-122427 | | SHEET 1 | OF 4 | REV 0 |

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QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| 0 | 4/06/93 | APPROVED FOR CONSTRUCTION | KK | AL | AT | ARM | NA | NA |
|------------------------|---------|---------------------------|--|----|----------------------|-----|-----------|----|
| | | | NA | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | | |
| CADFILE | | B122427B | CADCODE | | 2B:IBM:ACD2:10.C2:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | | |
| REV _____ DATE _____ | | | | | | | | |
| ERO _____ | | | Richland Field Office DE - AC06-86RL10838 | | | | | |
| SIGNATURE | | DATE |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | | |
| PROJ DIR | | | | | | | | |
| NA | | | ELECTRICAL CONNECTION DIAGRAM TU-130-002 | | | | | |
| QA MGR | | | | | | | | |
| NA | | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | | |
| NA | | | | | | | | |
| PROJECT MGR | | | | | | | | |
| NA | | | HANFORD WASTE VITRIFICATION PLANT | | | | | |
| SYSTEMS MGR | | | | | | | | |
| NA | | | | | | | | |
| ENGINEERING MGR | | | | | | | | |
| NA | | | | | | | | |
| SUPERVISOR | | | | | | | | |
| A.TALEBI / A.McWHORTER | | 10-29-92 | PROJECT TITLE | | | | | |
| DESIGN ENGINEER | | | PROJECT | | | | | |
| A.LARSEN | | 10-29-92 | B-595 | | FLUOR CONTRACT NO. | | CWBS NO. | |
| CHECKED | | | 8457 | | 1 | | P06B | |
| K.KOVELL | | 10-29-92 | SCALE | | BLDG NO. | | INDEX NO. | |
| NONE | | | 1 | | | | | |
| DRAWN | | | DRAWING NUMBER | | SHEET | | OF | |
| S.DREYER | | 9-30-92 | H-2-122427 | | 2 | | 4 | |
| CLASSIFICATION | | BY | REV | | | | | |
| NONE | | NOT REOD | 0 | | | | | |

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INITIALS: LD
DATE: 3-16-93

DISTRIBUTION CODE: 617

E4

ACAD


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7 78 79 80

NOTES:

1. CONNECTOR NUMBERS ARE PREFIXED BY TU-130-001.
(EX: TU-130-001-EA)
2. CONNECTOR NUMBERS ARE PREFIXED BY RA-130-007.
(EX: RA-130-007-EA)
3. FOR STANDARD DRAFTING SYMBOLS, ABBREVIATIONS AND
GENERAL NOTES SEE DWG H-2-122425 SH 1.
4. EQUIPMENT GROUND KIT, GENERAL ELECTRIC CATALOG
NUMBER TGL3. (OR EQUAL).

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|--|-----------------|---------------------------|--|-----------------------------------|-------------------------|----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | KK | LC | AT | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B122427C | | CADCODE | 2B:IBM:ACD2:10.C2:SS | | | |
| ENGINEERING RELEASE | | | U.S. DEPARTMENT OF ENERGY | | | | |
| REV _____ DATE _____ ERO _____ | | | | | | | |
| SIGNATURE | | DATE | Richland Field Office DE - AC06-86RL10838 | | | | |
| PROJ DIR NA | | | | | | | |
| QA MGR NA | | |  FLUOR DANIEL, INC. ADVANCED TECHNOLOGY DIVISION | | | | |
| INDEPENDENT SAFETY MGR NA | | | | | | | |
| PROJECT MGR NA | | | ELECTRICAL CONNECTION DIAGRAM TU-130-001 | | | | |
| SYSTEMS MGR NA | | | | | | | |
| ENGINEERING MGR NA | | | | | | | |
| SUPERVISOR A. TALEBI / A. McWHORTER | | 10-29-92 | | | | | |
| DESIGN ENGINEER A. LARSEN | | 10-29-92 | PROJECT TITLE HANFORD WASTE VITRIFICATION PLANT | | | | |
| CHECKED K. KOVELL | | 10-29-92 | PROJECT B-595 | FLUOR CONTRACT NO. 8457 | CWBS NO. P06B | | |
| DRAWN S. DREYER | | 9-30-92 | SCALE NONE | BLDG NO. 1 | INDEX NO. | | |
| CLASSIFICATION | BY | DRAWING NUMBER | SHEET | OF | REV | | |
| NONE | NOT RECD | H-2-122427 | 3 | 4 | 0 | | |

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DISTRIBUTION CODE: 617

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ACAD

INITIALS: LD

DATE: 3-16-93

QUALITY LEVEL II
SAFETY CLASS 3

APR 8 - 1993

| | | | | | | | |
|--------------------------|--------------------|---|-------------------|----------------------|------|-----|----|
| 0 | 04/06/93 | APPROVED FOR CONSTRUCTION | KK | AL | ATPM | NA | NA |
| | | | NA | NA | NA | NA | NA |
| REV NO. | DATE | REVISION DESCRIPTION | APPROVAL INITIALS | | | | |
| CADFILE | B122427D | | CADCODE | 2B:IBM:ACD2:10.C2:SS | | | |
| ENGINEERING RELEASE | | <p>U.S. DEPARTMENT OF ENERGY</p> <p>Richland Field Office</p> <p>DE - AC06-B6RL10838</p> <p> FLUOR DANIEL, INC.</p> <p>ADVANCED TECHNOLOGY DIVISION</p> <p>ELECTRICAL CONNECTION DIAGRAM</p> <p>TU-130-001</p> | | | | | |
| REV | DATE | | | | | | |
| ERO | | | | | | | |
| SIGNATURE | DATE | | | | | | |
| PROJ DIR | | | | | | | |
| NA | | | | | | | |
| QA MGR | | | | | | | |
| NA | | | | | | | |
| INDEPENDENT SAFETY MGR | | | | | | | |
| NA | | | | | | | |
| PROJECT MGR | | | | | | | |
| NA | | | | | | | |
| SYSTEMS MGR | | | | | | | |
| NA | | | | | | | |
| ENGINEERING MGR | | | | | | | |
| NA | | | | | | | |
| SUPERVISOR | | | | | | | |
| A. TALEBI / A. McWHORTER | 10-29-92 | | | | | | |
| DESIGN ENGINEER | | | | | | | |
| A. LARSEN | 10-29-92 | | | | | | |
| CHECKED | | | | | | | |
| K. KOVELL | 10-29-92 | | | | | | |
| DRAWN | | | | | | | |
| S. DREYER | 9-30-92 | | | | | | |
| CLASSIFICATION | BY | DRAWING NUMBER | | SHEET | OF | REV | |
| NONE | NOT RECD | H-2-122427 | | 4 | 4 | 0 | |
| PROJECT TITLE | | HANFORD WASTE VITRIFICATION PLANT | | | | | |
| PROJECT | FLUOR CONTRACT NO. | CWBS NO. | | | | | |
| B-595 | 8457 | P06B | | | | | |
| SCALE | BLDG NO. | INDEX NO. | | | | | |
| NONE | 1 | | | | | | |

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DISTRIBUTION CODE: 617

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ACAD

INITIALS: LD

DATE: 3-16-93